

TEAM INNOVATION AND CITIZENSHIP  
PERFORMANCE: THE EFFECT OF COLLECTIVE  
REGULATORY FOCUS AND PERCEIVED  
ORGANIZATIONAL SUPPORT

By

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“All that I am or ever hope to be, I owe to my angel mother.” —**Abraham Lincoln**

I have dreamed of this day for a very long time, and I finally made it! I would never have been able to complete this journey on my own, so I want to say thanks to my extraordinary husband, Jeff, and my two wonderful children, Blake and Summer, for supporting me through this process. I recognize that these past few years have been a sacrifice for all of you; for your patience, I will forever be grateful. Jeff, you are my rock; it is because of you that I had the strength and endurance to reach out and fulfill my lifelong goal. I could not have done this without you, and you deserve this Ph.D. just as much as I do. Thanks to my co-workers and colleagues who provided me encouragement, especially Sally. I also want to thank the faculty at OSU, my committee, and especially Dr. Craig Wallace. It was through your guidance that I became a better researcher and teacher. Also, I want to say thanks to my fellow cohort members who made going back to school fun and exciting. But most of all I want to thank my parents. Dad, thank you for raising me to be the strong woman I have become. Mom, I wish you were here to share this moment with me. I know you are looking down on me and are proud of what your daughter has accomplished. It is because of you that I am the person I am today. You are always in my heart.

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Abstract: This study investigates the impact perceived organizational support and a team climate for innovation has on team innovation and citizenship performance. Collective regulatory focus is utilized as a mediating process to assess the team's motivational behavior and how it affects the team's performance. The study was conducted by first surveying team members working throughout a manufacturing organization and then having the employees' immediate supervisors rate their performance in the two key performance areas of innovation and citizenship. The results demonstrated that perceived organizational support played an active role in moderating team performance; however, it did not appear to be related to the team climate for innovation.

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## CHAPTER I

### INTRODUCTION

In today's work environment, employees are often expected to accomplish the company's mission by working with a group of employees. The success of the team and its team members, whether it is a temporary project team or a permanent work group, is measured by the overall team performance. As teamwork has become a vital component contributing towards organizational success, a work team's ability to work together toward a common goal is a necessity. In the 1990s, organizations began to shift work patterns away from individual job performance and began focusing on more project- and team-based work (Gully, Incalcaterra, Joshi, & Beaubieu, 2002; Harriot & Anderson, 1997). The 1990s saw the major shift to teams as new collaborative job design and work practices required employees to work in a team environment (Gordon, 1992; Capelli & Rogovsky, 1994). By the turn of the century, the team-based approach was considered an effective means for companies to generate new creative ideas and to successfully implement those ideas to help the organization sustain its competitiveness in this hypercompetitive world (Rousseau, Aube, & Tremblay, 2013; Sacramento, Chang & West, 2006; Mumford, Scott, Gaddis, & Stange, 2002). Today, teamwork is seen by both the public and private sectors as a creditable means of improving productivity and creating the competitive advantage needed in today's tough economic climate.

A company's ability to have high-performing, innovative work groups that routinely go above and beyond can lead to higher levels of overall organizational effectiveness. Empirical research indicates that successful cooperation and teamwork among employees can have a substantial impact on an organization's financial productivity (Organ, Podsakoff, & MacKenzie, 2006; Nielsen, 2012; Podsakoff, MacKenzie, Paine, & Bachrach, 2000). Further research shows that organizational effectiveness is improved when workers volunteer and go beyond their normal job functions to perform activities that benefit the organization and their coworkers (Podsakoff, Ahearne, & MacKenzie, 1997; Podsakoff, Whiting, Podsakoff & Blume, 2009; Podsakoff et. al., 2000; Duffy & Lilly, 2013). Delarue, Van Hootegem, Procter, and Burrridge (2008) conclude that teamwork has a positive impact on four different dimensions of performance outcomes (operational, financial, attitudinal, and behavioral outcomes). Another factor considered by many scholars to be important in determining work group performance is its propensity for innovation (West & Anderson, 1992; West & Farr 1989; Wallace, Butts, Johnson, Stevens, & Smith, 2013). Innovation is recognized as a critical element in the success of organizations in a global context because it can lead to financial gains, increased productivity, improved social processes, and enhanced satisfaction (Bowen, Rostami & Steel., 2010; Rousseau et al., 2013). However, in their recent review, Anderson, Potočník, and Zhou (2013) stress the need for an integrative framework to expand our knowledge of innovation rather than studying individual and contextual characteristics in isolation.

Addressing this gap in literature, I integrate organizational support theory (Hutchison, Sowa, Eisenberger, & Huntington, 1986) and regulatory focus theory (Higgins, 1997, 1998) at a collective work-group level to provide insight into how certain team-level characteristics work together to increase the group's motivation and create opportunities for increased strong innovation and citizenship performance. Below I briefly introduce these core areas and the need to examine them in a group context. Numerous studies show that a positive team climate is directly correlated with team performance (West & Anderson, 1992; Kivimäki, Kuk, Elovainio, Thomson, Koalliomake-Levanto, & Heikkilä, 1997; Wallace et al., 2013; Anderson et al., 2013). Researchers in the area of team

climate also argue that a team's innovativeness and performance may be facilitated or hindered by the "climate" in the team or work group (Anderson & West, 1996; Higgins, 2000). Therefore, understanding and creating a positive team climate can provide organizational leadership the crucial foundation required for work-group development. According to one of the leading theorist on innovation climate in teams, higher team performance has been linked to West's (1990) construct of team climate for innovation (TCI). Most research on team climate analyzes the effect on individual team members; however, researchers in this area suggest that further studies are needed to investigate the potential measures of TCI in different contexts, such as the aggregated team level. Therefore, to answer this call for more research, my study expands the research stream in this area by considering the overall team-level climate and how the collective scores affect the team's outcome. This study examines the team-/work-group level aggregated scores to predict the group's overall perceived climate, motivational process, and outcomes. As a broad framework guiding the classification of the multitude of team-level variables studied as predictors of performance, I build upon Hackman's (1983) widely accepted Input-Process-Output (IPO) model, which in more recent years has seen an introduction of cognitive and affective states as a means of evaluating team performance (Ilgen, Hollenbeck, Johnson, & Jundt, 2005; Marks, Mathieu, & Zaccaro, 2001). I posit that a group utilizes a collective regulatory process to regulate their motivational behaviors which influence the relationship between the team's climate for innovation and the team's performance.

Since a key to organizational success is to develop highly productive work teams, organizations continue to seek out the "levers" that can be adjusted to enhance the overall effectiveness of their teams (Maynard, Mathieu, Gilson, O'Boyle, & Cigularov, 2013). My study expands our knowledge of team performance by investigating the factors that influence work team dynamics to determine their impact on a team's ability to increase its performance. I believe that perceived organizational support will play a major role in predicting team performance. This study will reconfirm the relationship between team climate for innovation and a team's innovation and citizenship performance, yet extends this direct relationship by examining the mediating potential of collective

regulatory focus. I will extend our knowledge on how social pressure from team climate and facilitating conditions from organizational support can be externally created to directly encourage innovation and citizenship. The contribution of this research is to provide a better understanding of how perceived organizational support influences collective regulatory focus, providing leadership a means of modifying a work team's or group's behavior to improve its performance. This study examines the impact of team-related factors of climate, support, and regulatory focus on the work group's performance, which makes important theoretical and practical contributions to team-based research. To do so, the study addresses the following research questions.

- Does TCI influence citizenship and innovation through group regulatory focus?
- Does/can organizational support provide a positive influence on the team-/group-level process (i.e., Team Climate for Innovation → Collective Regulatory Focus → Performance?)

If I find support for these questions, then it will be possible to align teams and performance outcomes by having work-group leaders create a better climate and organizational leaders demonstrate support.

## CHAPTER II

### REVIEW OF LITERATURE

#### **Organizational Framework of Team Level Antecedents**

Hackman's (1983) Input-Process-Output (IPO) model is widely accepted for evaluating team-/work-group<sup>1</sup> performance and has also been adopted in innovation literature (Ilgen et al., 2005; Anderson & West, 1996). The IPO model serves as a basis for classifying team-level variables into input and process factors. Research in team effectiveness commonly identifies team processes as the central mechanism in determining team outcomes and utilizes the IPO framework (Gist, Locke, & Taylor, 1987; Guzzo & Shea, 1992; Hackman). The process is considered the mediating mechanism linking such organizational characteristic variables as teams with various performance criteria (Marks et al., 2001). As team research continues, this framework has gained rapid popularity as the foundation for numerous empirical studies. However, more recent research has begun to see its shortcomings and has moved beyond the original framework (Marks et al.; Ilgen et al.). Marks and associates developed an episodic framework arguing that teams multi-task, performing multiple processes simultaneously. Another such model is the IMOI (Input-Mediator-Output-Input) that demonstrates the importance of mediating influence on performance variables and contends that the extra "I" is added because of the cyclical nature of most team functions

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<sup>1</sup> Traditional work groups are defined as a department or work unit in which members operate independently. Teams are defined as group that focuses on team goals and the overall outcome of the group. This study will primarily focus on interdependent-level work groups that work together on a daily basis and produce both individual and collective work products. Thus, for the purpose of this study the use of the word "teams" and "work groups" are synonymous.

(Ilgen et al.). Both models show how the original IPO model can be enhanced to better understand team processes and performance. In my study, I continue to build upon the IPO framework by adding a moderating factor between the input and the process. My findings should expand the use of the IPO model to better understand not only the mediating factors but the moderating factors, which contribute to team performance.

### **Team/Group Performance**

There are many ways to measure the effectiveness of an organization; however, performance is considered the most significant dependent variable of interest for researchers. Organizational effectiveness is a broad capture of organizational performance plus the overabundance of internal performance outcomes associated with more efficient and effective operations that relate to factors that are broader than those simply associated with economic valuation (Riggle, Edmondson, & Hanson, 2009). On the other hand, organizational performance refers to firm outcomes in the areas of financial performance, product market performance, and shareholder returns. A wide range of performance mechanisms have been investigated to determine their impact on operational and financial outcomes, including productivity, quality, customer satisfaction, and profitability. The measurement of innovation has generally been studied both as part of the wider conceptual domain of organizational effectiveness (Cameron & Whetten, 1983; Venkatraman & Ramanujam, 1986) and as a dependent performance measure (e.g., Capon, Farley, & Hoenig, 1990; Hall, Jaffe, & Trajtenberg, 2005).

When one begins to consider team-based literature, another set of performance outcomes moves to the forefront to indicate the outcome of individual team members and the team itself (Delarue et al., 2008; Cohen & Bailey, 1997; Guzzo & Dickson, 1996). Team performance refers to the overall effectiveness of a group of workers aligned and committed to a common goal. A number of theoretical arguments show that employees working as a team (i.e., teamwork) leads to improved organizational performance (Hammer & Champy, 1993; Katzenbach & Smith, 2005; Womack, Jones,

& Roos, 1991). These theories focus on the effort and motivation of individual workers ranging from human resource management, which supports the concept that teamwork will lead to behavioral changes that result in improved organizational performance (Becker, Huselid, Pickus, & Spratt, 1997; Dyer & Reeves, 1995); participative decision making, which leads to more committed employees who strive for greater efficiency and effectiveness (Manz & Sims, 1980; Sims & Manz, 1996); and social-technical theory, which argues that changes in team structure and process within the organization is the main mechanism by which performance is improved (Mueller, Procter, & Buchanan, 2000). Numerous studies show the positive relationship between work teams and both operational (productivity, quality) and financial (profitability) outcomes (Hamilton, Nickerson, & Owan, 2003; Mathieu, Gilson, & Ruddy, 2006; Procter & Burridge, 2004; Glassop, 2002; Zwick, 2004). However, more research is needed to better understand the attitudinal and behavioral products associated with increased performance and competitiveness (Lanaj, Chang, & Johnson, 2012; Delarue et al.).

The Delarue and colleagues (2008) review of survey-based research on the contribution of team work on organizational performance found few studies that investigated the attitudinal and behavioral outcomes of team work. In a study of Canadian workers by Godard (2001), the findings showed that team-based work had strong and statistically significant positive correlation with job satisfaction, task involvement, commitment and citizenship behavior. Other researchers discovered that the use of group work leads to higher levels of enjoyment and lower levels of absenteeism and turnover (Batt, 2004; Bacon & Blyton, 2000; Glassop 2002). While a wide range of performance outcomes have been investigated in organizations, I will focus here on two performance measurements: innovation and citizenship performance. I believe these two variables will have a significant influence on overall organizational effectiveness. The next two sections will discuss my reasoning in more detail.



## **Innovation Performance**

Over the past 30 years, the concept of innovation within organizations has appealed to scholars from various disciplinary perspectives, including management science, sociology, and organizational psychology (Hosking & Anderson, 1992; Kanter, 1983; Pettigrew, 1985; West & Farr, 1990; Anderson, 1992). Innovation is defined as “the intentional introduction and application within a role, group or organization of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit role performance, the group, the organization or the wider society” (West & Farr, p. 4). Innovation does not occur by chance. It is restricted to intentional attempts to bring about new changes and outcomes. Benefits of innovation include personal growth, increased satisfaction, improved group cohesiveness, better organizational communication and commitment, as well as productivity and economic gains. Various processes and products may be regarded as innovations, including technological changes such as new products and production processes (i.e., the introduction of advanced manufacturing technology or of new computer support services within an organization). Creativity and innovation have been explored from both a qualitative and quantitative aspect as a function of structure and composition of work groups (Anderson, Hardy, & West, 1992; Payne, 1990). Also, team dynamics and other team characteristics such as team size have been known to contribute to teams’ ability to effectively create and innovate new processes and procedures within their organizations.

Innovation is increasingly recognized as a key source for sustaining a competitive advantage that organizations can use to adapt to the rapidly changing economic and global environment (Anderson, DeDreu, & Nijstad, 2004; Tseng, Liu, & West, 2009). Studies show that creativity and innovation in products, work processes, and services provide a strong contribution to long-term organizational survival. In addition, innovation plays a substantial role in an organization’s ability to enhance its competitiveness by “doing more with less” and successfully marketing new products and services (Carmeli & Spreitzer, 2009; Carmeli & Tishler, 2004; Fallah & Lechler, 2008). Thus, innovation performance continues to be a key concern for most organizations and is considered a vital element

for organizational success. Innovation performance is defined as the extent to which a new product, service, or process meets financial and market goals in the marketplace (Rijsdijk, Langerak, & Jan Hultink, 2011). At the operational level, innovation performance refers to generating novel and useful ideas and successfully implementing them in organizational contexts (Amabile, Barsade, Mueller, & Staw, 2005). Companies competing in the worldwide market need to achieve significant innovation performance so that their products or services can be successful (Fallah & Lechler). In order for an organization to achieve the necessary innovativeness to remain competitive, employee innovation in the workplace continues to be a critical component.

Employees are a key ingredient to creating this advantage because they are involved in the inner workings and daily functions of the organization. This provides them firsthand opportunities for changes and improvements to processes and procedures that are not always apparent to organizational leadership (Wallace et al., 2013). As more and more employees rely on teamwork and their entire work groups to accomplish their roles and responsibilities, group innovative performance becomes an important element. While an individual may be highly innovative, if the group does not embrace the need for innovation, then the individual's ideas may go unnoticed. Researchers believe studying innovation at the work-group level is important because innovation is usually originated and developed by a team and then becomes the normal practice within the organization (Anderson & West, 1998; West & Farr, 1990; Anderson & King, 1993; King & Anderson, 1995). Innovation is affected by both individual characteristics and factors in the work environment. Research identifies various personal attributes related to individual creativity at work, including personality traits (Oldham & Cummings, 1996), cognitive styles (Baer, Oldham, & Cummings, 2003), and intrinsic motivation (Amabile, Conti, Coon, Lazenby, & Herron, 1996). Numerous studies show that the work environment and social climate can enable or disable innovation and creativity in the workplace (Amabile et al.; Mathisen, Einarsen, Jorstad, & Bronnick, 2004; Oldham & Cummings; Patterson, Warr, & West, 2004). Because innovation is such a crucial factor in organizational success and most

workers rely on the team for measuring outcomes, I measure innovation performance at the team level in this study.

### **Citizenship Performance**

Researchers theorize that organizations are more effective when employees go above and beyond the call of duty to assist other employees in achieving organizational goals (Organ, 1988). For the past several decades, organizational citizenship behavior (OCB) has become a growing stream of research in understanding work-team dynamics and has been emphasized in organizations that are constantly seeking ways to be more effective as a means of survival (Chattopadhyay, 1999; Organ, 1990; Foote & Tang, 2008; Podsakoff et al., 2009). OCB is characterized by team members who voluntarily contribute to the organization and who go above and beyond their job duties to positively impact the effectiveness of the organization (Organ, 1990). OCB studies show a strong relationship between team commitment and team effectiveness (Podsakoff et al.). Going above and beyond what is expected can provide a competitive advantage for an organization because employees are willing to work toward success regardless of constraints and they voluntarily provide more time and energy to the organization. With an increase in work-group dynamics, investigating a team's citizenship performance can provide insight into how it can be leveraged and fostered within the organization.

Organizational citizenship behavior consists of behaviors that promote the social and psychological aspects of the work environment, such as helping a coworker and adhering to informal work policies (Organ, 1988). Often these are discretionary behaviors that fall outside formal job duties, yet they represent exemplary forms of performance that benefit the company's bottom line (Podsakoff et al., 2009). Increasing a work groups OCB can lead to better cooperation, working together to achieve organizational goals and improving work-group performance. Since citizenship consists of employees' efforts to change things for the better, it is important to recognize its effect on work-group innovation. Team innovation has been shown to increase when members feel encouraged and supported and when they feel safe enough to participate in decision making, voicing

new ideas that lead to an increase in organizational citizenship behavior (Anderson & West, 1998). This linkage is the basis for studying both innovation and citizenship performance in my study.

Employees' decisions to participate in OCB are usually motivated by the self-oriented functions to realize career-related benefits and enhance one's self-concept (Lavelle, 2010). Past research has found employees may demonstrate OCB to improve their work impressions as a means of acquiring rewards and procuring better career prospects (Bolino, 1999; Rioux & Penner, 2001). OCB is also more likely when employees are predisposed to experience cheerfulness-related emotions (Johnson, Tolentino, Rodopman, & Cho, 2010). Thus, a person or team's citizenship behavior or performance is connected to their motivation strategy. It is this motivational process which will drive the team's emphasis and need for citizenship both within the team and the organization.

### **Climate**

"Climate" is an area of organizational psychology research; its foundation was built from a 1939 study by Lewin, Lippitt, & White on social climate. Over the past 40 years, numerous disciplines with varying opinions on definition and measurement have researched organizational climate (Campbell, Dunnette, Lawler, & Weick, 1970; James & Sells, 1981; Schneider & Reichers, 1983; Rousseau, 1988; Schneider, 1990). Two main approaches to defining climate have emerged: the cognitive schema approach and the shared perception approach. The cognitive approach theorizes climate as an individual's constructive representation or cognitive schema of their work environment (Ashford, 1986; James & Jones, 1974; James & Sells). James and Sells (p. 278) define climate as "individuals' cognitive representation of proximal environments ... expressed in terms of psychological meaning and significance to the individual." They add (p. 278??) that "climate is the 'ambiance' of an organization with various patterns of influence on employee behavior created by prevailing environmental conditions in an organization."

The other approach to defining climate emphasizes the significance of shared perception (Koy & DeCottis, 1991; Payne, Fineman, & Wall, 1976; Uttal, 1983). This approach defines climate as the

shared perception of organizational policies, practice, and procedures or simply put, “the way things are around here” (Schneider, 1990). Other researchers, such as Svyantek and Bott (2004), describe climate as the shared perceptions and the subsequent interactions and behaviors with regard to creativity, innovation, service, or safety within the organization. This use of shared perception or meaning is most prevalent in current research and is the definition used within my study. Unlike culture, defined as shared norms and values that shape the organization, climate is more dynamic and considered a more transient construct than culture which is considered static and rarely changes (Schneider). Because of climate’s fluidity, researchers usually focus on the many facets of climate such as the climate for innovation, climate for service, or climate for safety. Schneider recommends that research should emphasis specific components of climate that are important to the organization. Thus, research should concentrate on the particular climate constructs specific to organizational references.

Studies show that a strong team climate can lead to positive financial performance (Gonzalez-Roma, Fortes-Ferreira & Peiro, 2009). The environment in which employees work plays a major role in the way they go about accomplishing their jobs. A positive work environment can lead to higher performing workers, whereas a poor work environment can lead to inefficiencies and ineffectiveness. Researchers refer to the environment as the “work climate.” Organizational theory posits that climate mediates the relationship between the work environment and work-related attitudes and behavior (Campbell et al., 1970; Kopelman, Brief, & Guzzo, 1990).

While culture should be used in a broad organizational context, because of the formation of shared meaning at the work-group level, understanding work climate provides a clearer insight into causation of team or work-group performance. Shared meaning requires interaction between individuals in the work place; thus, Schneider and Reichers (1983) contend that different work groups will create different meanings regarding the same organizational policies, practices, and procedures within the same organization. Thus, the work team’s climate is somewhat unique and can differ throughout the organization. Schneider and Reichers’ research raises the question of what

characteristics at both the individual and organizational level allow for the development of this shared meaning. Further investigating the attributes the work-group level can determine the criteria for increasing performance and achieving more positive outcomes. The need for a clear definition of climate has caused researchers to focus on determining the level at which a climate is actually formed and measured. In 1998, Anderson and West argued that the appropriate level to analyze shared perceptions of climate was the proximal work group. They defined a proximal work group as “the permanent or semi-permanent team to which individuals are assigned in which they commonly identify and interact with on a regular basis in order to accomplish work related tasks” (p. 57).

Anderson and West (1998) contend that workers are more likely to relate to those within their proximal work groups and to be committed its members in order to carry out day-to-day activities. They also asserted that these work groups are the primary conduit through which shared climates will evolve and become a way of life for the organization. Other research also concludes that individuals who identify with their proximal work groups and who interact with colleagues are likely to co-construct perceptions and develop shared patterns of understanding and norms of behavior, thereby allowing the opportunity for a shared climate to evolve (Campion, Medsker, & Higgs, 1993). Research also indicates that at the work-group level, climate provides a cohesive representation of the work team, which allows the group to assign shared meaning to events and determine the actions required to lead to positive outcomes (Parker, Baltes, Young, Huff, Altmann & Locost, 2003). Thus, a proximal work group should share the same climate, which should be measurable.

### **Climate for Innovation**

Work-group climate can be considered a multi-level construct with individual perceptions being aggregated to the group level based on the shared perceptions among the members. As teams develop, they create a set of perceptions about the team’s policies, procedures, and practices. One such perception is the team’s climate for innovation. The team climate inventory (TCI) was developed from extensive literature reviews of team climate for innovation research exploring

organizational climate, team effectiveness, and innovation at work (West, 1990). The result of this work was the discovery of four factors that best determine team performance and the level of innovation behavior within teams (West; West & Anderson, 1992). These four factors are vision, participative safety, task orientation, and support for innovation. They cultivate into shared perception of the work group and are the ingredients needed to create a team climate for innovation.

The first factor determines the team's ability to clearly define its goals and objectives. *Vision* is how well the team's objectives are defined, shared, and valued. West (1990) asserts that work groups with clearly defined objectives are more likely to develop new goal-appropriate methods of working since their efforts have focus. Other researchers find that clear goals are a significant factor that predicts success during team innovation (Pinto & Prescott, 1987; Loo, 2003).

The second factor in TCI is participative safety. *Participative safety* refers to how safe the team members feel when interacting and sharing information within the team. When participative safety is present, members are able to propose new ideas and solve problems in a nonjudgmental, nonthreatening, supportive, and trusting environment. West (1990) proposes that the more people participate in decision-making by influencing, interacting, and sharing information, the more likely they are to invest in the outcomes of those decisions and to offer ideas for new and improved ways of working. More participation in decision making leads to a higher probability of implementing creative ideas and lowers the level of resistance to the implementation process (Kanter, 1983). In order for individual members to be open to participation in the group, there must be some level of perceived psychological safety. The interpersonal relationships among team member must be felt to be non-threatening and respectful to ensure complete participation.

The third TCI factor is task orientation. *Task orientation* is the shared concern for and commitment to excellence in quality and task performance in relation to the team's shared vision or outcomes and a climate that supports improvement (Anderson & West, 1998). When all team members share the same concern for the quality of tasks and allowable non-task behaviors, the team's behavior will indicate that they feel collective accountability for the group's performance. Research

by Anderson and West (1996) shows that the level of innovation increases and more creative solutions are found when the team shares a focus on high levels of task performance.

The fourth factor, *support for innovation*, measures the team members' perceived support for the introduction of new ideas and improvements to the work environment (West, 1990). Team members will take action when they believe their fellow team members and supervisors are supportive of new ideas that may challenge established systems or norms (Chatzi & Nikolaou, 2007). Support for innovation creates a climate that will enhance the team's innovation capacity and provide them the necessary support to seek out new and innovative ideas.

TCI has been proven to be an effective means for measuring team climate for innovation. TCI has also been validated as a reliable measurement of team innovation in numerous countries, including France, Greece, Italy, Taiwan, Sweden, Australia, and Norway, just to name a few (Chatzi & Nikolaou, 2007; Ragazzoni, Baiardi, Zotti, Anderson, & West, 2002; Tseng et al., 2009; Mathisen et al., 2004; Agrell & Gustafson, 1994). Research results demonstrate the four climate facets has a significant positive correlation with team members and team performance beyond measuring team innovativeness. (Loo, 2003; Strating & Neiboer, 2009; Gonzalez-Roma et al., 2009). TCI can significantly influence an individual's knowledge-sharing behavior, organizational commitment, and citizenship, leading to better financial performance, productivity, and increased competitive advantage in the organization. Because of this research, I will further examine how work groups' TCI can maximize team innovation and citizenship performance. While team climate for innovation provides the foundation for positive team performance, I posit that other factors such as a team's regulatory focus and perceived organizational support are important contributing factors to the team's overall innovation and citizenship performance accomplishments and will affect the impact of TCI.

### **Perceived Organizational Support**

While TCI has been shown to enhance innovation performance, the understanding of how it affects innovative behavior has not been fully addressed. One plausible process that may influence



innovative behavior is how valuable an employee feels. Employers value those employees who are hard-working, dedicated, and loyal. Employees similarly are concerned with the organization's commitment to them. Employers that take the human capital view believe that the majority of employees have the potential to contribute to the organization's success and that the organization should assist employees in realizing their potential (Eisenberger & Stinglhamber, 2011). This reciprocating commitment to each other can be the difference between an organization becoming extremely successful or just floating along in the middle of the competitive pack.

Numerous studies show that employees who feel valued and supported are highly committed to the organization, have higher levels of performance and lower absenteeism, and are less likely to find another job (Rhoades & Eisenberger, 2002). A valued employee will reap the benefits of approval and respect, pay and promotion, access to information, and other forms of assistance to better complete their roles and responsibilities (Eisenberger & Stinglhamber, 2011). The organization in return benefits from highly engaged, dedicated employees who desire to meet or exceed company expectations, thus increasing their citizenship performance. Social exchange theorists have long considered employment as the trade of effort and loyalty for tangible benefits (pay) and rewards (Bateman & Organ, 1983; Mowday, Porter, & Steers, 1982; Rhoades & Eisenberger, 2002). When a person treats another well, there is an underlying obligation to return the favorable treatment, creating a reciprocity norm. When both the employee and the employer apply this norm to their interaction, their conduct is reciprocated, resulting in a beneficial outcome for all. As the relationship between the employee and the employer evolves, the employee develops a set of beliefs or perceptions regarding the level to which the organization values his/her involvement and cares about his/her well-being (Hutchison et al., 1986). These beliefs create the employee's perceived level of support from the organization known as Perceived Organizational Support.

Perceived Organizational Support (POS) refers to employees' perceptions of the extent to which the organization values their contribution and cares about their well-being (Eisenberger, Fasolo, & Davis-LaMastro, 1990; Rhoades & Eisenberger, 2002; Wayne, Shore, & Liden, 1997). It is important

to point out that it is *perceived* support based on what the employees believe, not what the leadership of the organization believes. This is an important differentiation because these two groups do not always perceive support to be identical. What the employee or work group perceives is what matters to them and therefore shapes their behaviors, attitudes, and performance. Researchers have found a strong relationship between perceived organizational support and citizenship behavior and other various types of performance, including innovativeness (Rhoades & Eisenberger; Eisenberger & Stinglhamber, 2011). Employees who feel supported by their leadership and organization (high POS) tend to engage in organizational citizenship behavior more than those with lower levels of POS (Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001).

Research on POS started in 1986 when it was observed that employers were interested in why employees were committed to the organization while employees were focused on the organization's commitment to themselves. According to Eisenberger, the most recognized researcher in POS ([www.psychology.uh.edu/pos/](http://www.psychology.uh.edu/pos/), 2014), this observation has led to significant research in the field of POS with over 325 scholarly studies on the topic. Perceived organizational support has been shown to increase employees' felt obligation to help the organization reach its goals, their commitment to the organization, and their expectation that improved performance will be rewarded (Eisenberger & Stinglhamber, 2011). Behavioral outcomes of POS are increases in role and extra-role performance and decreases in stress and withdrawal behaviors.

POS is rooted in Levinson's Organizational Support Theory. Levinson believes that employees' views or perceptions of the organization are based on the actions of representatives (managers) in the organization (Levinson, 1965). This personification of the organization is supported by the organization's legal, moral, and financial obligation for the actions of its representatives; the precedents, policies and norms that provide continuity and advocate role behaviors; and the power it exerts over employees (Levinson). The actions of their direct leadership are viewed by the employee as being representative of the entire organization. This gives the organization a humanlike characteristic to which the employee can relate to and understand. Because of this humanlike

characteristic, POS is important for researchers in understanding the true nature of its grasp on employee behavior. Therefore, I include POS as a vital component to my research because of the rich contextual implication it has on not only individual but also work group behavior.

A meta-analysis on POS research by Rhoades and Eisenberger (2002) shows that three general categories of favorable treatment received by employees (fairness of treatment, supervisors' support, and rewards and job conditions) are positively related to POS. POS in turn is associated with outcomes favored by employees (e.g., increased job satisfaction, positive mood, and reduced stress) and the organization (e.g., increased affective commitment, performance, and reduced turnover).

*Fairness* refers to the quality of interpersonal treatment in resource allocation and is sometimes referred to as procedural justice (Rhoades & Eisenberger, 2002). A study by Shore and Shore (1995) shows how repeated acts of fairness in decisions concerning resource distribution had a strong cumulative effect on POS by demonstrating an overall concern for the welfare of the employee.

*Supervisor Support* is the employee's perception of the degree to which the direct supervisor values his/her contributions and cares about his/her well-being (perceived supervisor support) (Kottke & Sharafinski, 1988). Since the supervisor acts as an agent for the organization, employees view the supervisor's orientation toward them as an indication of the organization's support. Since the supervisor's opinion of the employee is usually being shared with upper management, this adds to the perceived level of support (Eisenberger, Huntington, Hutchison, & Sowa, 1986; Levinson, 1965).

Finally, *rewards and job conditions* is the extent to which the organization provides recognition, pay and promotions, job security, autonomy, and necessary training and reduces role stressors. Wayne and associates (1997) argue that human resource practices recognizing employee efforts are positively related to organizational support. When these factors are present, employees feel supported by their organizations, which influences their general affective reaction. POS contributes to employees' overall feeling of well-being by meeting their social-emotional needs by providing clear performance-reward expectations and assistance when needed (Rhoades & Eisenberger, 2002).

## **Regulatory Focus Theory**

Motivational theory stresses the importance of a self-regulatory focus as a central component shaping motivation and behavior (Higgins, 1997, 2000). This theoretical finding provides insight into how a regulatory focus can influence and motivate team member performance. Although current literature does not fully explain the process by which innovative behavior occurs, research has found that regulatory focus can act as a mediating process in performance relationships. Regulatory focus can affect productivity, safety, quality performance, organizational citizenship behavior, and job satisfaction (Wallace & Chen, 2006; Strobel, Tumasjan, Spörle, & Welpe, 2013; Lanaj et al., 2012). Regulatory focus influences the nature of motivation, whether the target benefits by evading negative consequences or accomplishing something positive. Higgins's Regulatory Focus Theory proposes that there are two goal-striving orientations. *Promotion focus*, the first orientation, is concerned with gains, ideals, and accomplishments that are driven by a need for growth and development and are characterized by setting ideal and hoped-for goals (Carver & Scheier, 1998). The second orientation is a *prevention focus*, which is concerned with duties, obligations, and security. This focus is driven by the need to protect oneself from psychological harm and failure, which is done by avoiding adverse circumstances and setting high expectations (Carver & Scheier, 1998).

Regulatory Focus Theory demonstrates that promotion focus is related to innovative performance; promotion-focused individuals have a higher exploratory orientation (Friedman & Förster, 2001). Creativity provides opportunities for experimentation and possible rewards, thus appealing to a promotion-focused individuals. Numerous studies find a positive relationship between promotion focus and creativity in individuals (Crowe & Higgins, 1997). Studies also show that regulatory focus can influence one's desire to go above and beyond and promote a citizenship behavior (Dewett & Denisi, 2007). While researchers have evaluated individual regulatory focus in numerous spectrums, only recently has research been performed regarding a team's regulatory focus and performance. Studies show that individuals have the ability to switch between promotion and prevention focus based on the situation (Lalwani, Shrum, & Chiu, 2005). Therefore, since the team's

climate can influence individual's perceptions and values, investigating the work groups' regulatory focus could potentially provide better insight into overall team effectiveness.

### **Collective Regulatory Focus**

Teams are a growing trend among many organizations, and teamwork is a growing necessity in the work place. Being able to function effectively not only as an individual but also as a member of a team may determine how the individual's performance is measured. For instance, it is not uncommon to see team work and cooperation as key factors on individual performance evaluations. Specific skilled individuals are combined with other skilled individuals with the anticipation that a positive dynamic will form to make team performance greater than if each individual worked solely on their own. Although many organizations and individuals prefer teams, they can cause negative outcomes such as group think, social loafing, and internal conflicts that can lead to a dysfunctional or underperforming team (Moorehead, Ference, & Neck, 1991; Liden, Wayne, Jaworski, & Bennett, 2004; Johnson, 2010). Determining the factors that contribute to the motivation process of a team is critical to organizational success. To date, few studies have been performed in this area. In addition, several researchers have called for more multilevel motivation research to improve our comprehension of both team and team member effectiveness (Chen & Kanfer, 2006). To determine the motivational process of the team, this study investigates regulatory focus at the group level. This is known as collective regulatory focus.

In this study, collective regulatory focus is proposed as a rational equivalent to individual regulatory focus. Collective regulatory focus is formed by the shared needs, perceptions, and values of team members and has the same antecedents and consequences as individual regulatory focus theory. Collective regulatory focus is defined using a parallel construct of individual regulatory focus as the process by which groups regulate their behavior in order to align the group with the desired outcome. Research in the area of group goals, both qualitatively and quantitatively, has found that

group goal setting stimulates efforts to increase performance (Locke & Latham, 1990; O’Leary-Kelly, Martocchio, & Frink, 1994).

Teams with high outcome expectations tend to have higher individual and group productivity as well as job satisfaction. Goal setting at the team level is similar to individual goal setting in that it creates determination, increased effort, and focus. The result is the implementation of collective goal strategies leading to the desired end state for the collective regulatory focus process (Locke, Shaw, Saari, & Latham, 1981). Collective motivation occurs when all team members have a shared understanding of the group needs, beliefs, and goals and a shared incentive. While individuals may change their focus based on a given situation, there will still be an underlying team focus. The collective motivational structure will develop over time from the social interaction among the team members as they work to develop a set of group goals. Once the team has cohesion, a collective structure will form with a reciprocating influence on individual members (Johnson, 2010). Because of this reciprocation, collective regulation will occur.

Regulatory Focus Theory relies on individual self-regulation, which is usually predisposed based on the orientation developed in the child-parent interaction of childhood (Higgins, 1997). However, in team regulatory focus this interaction does not exist to form the team needs and values. The collective needs and values are formed through the interaction with other team members. Morgenson and Hofmann (1999) find that interaction among members causes the formation of a collective structure in which other collective constructs may cultivate. The continued interaction with other team members will form the basis for collective constructs such as collective regulatory focus. As the team members cultivate their relationships with each other, the team begins to form common goals that will lead to a common strategy for goal attainment. This collective understanding is similar to what is seen by social information processing theory (Brockner & Higgins, 2001). Thus individual attitudes, needs, and values are subject to the influence of the social context in which they are formed (Salancik & Pfeffer, 1978).

As the team develops, a collective regulatory focus will emerge to steer the team's behavior. The team will form a promotion or preventive focus based on its collective behavior and strategy. Promotion-focused teams will orient toward group accomplishments and the fulfillment of goals leading to positive outcomes. Prevention-focused teams will orient toward group fulfillment of responsibilities and duties and avoid creating errors and negative outcomes. The collective regulatory focus created from this team interaction forms the mediational construct for my study. Both regulatory behavior of promotion and prevention foci influence goal obtainment and the strategy used to achieve goals, whether to eagerly obtain positive outcomes (promotion) or aggressively seek to avoid negative outcomes (prevention) (Higgins, 1997).

Prevention- and promotion-focused strategies have a unique effect on performance levels of both teams and individual team members. For instance, if a team has a collective promotion regulatory focus, the team will be more likely to feel secure, take more risks, and feel a sense of accomplishment with positive outcomes. With positive results, the team will be more open to change and thus more innovative. In addition, its ability to achieve positive results will increase its cohesiveness as a team. The team's desire to go over and beyond its required duties to achieve even greater success will influence its citizenship behavior.

On the other hand, teams with a collective prevention focus work hard to avoid negative outcomes. In some work environments, this type of regulatory focus may be necessary because of the need for high levels of quality or because of unsafe work conditions. These work groups will focus on avoiding negative outcomes by following procedures and processes that demonstrate little innovativeness. Because the team is performing its duties and responsibilities without failure, it may not be compelled to go over and beyond its required duties, rather just "do the job." Thus, collective prevention focus may not relate positively to citizenship performance.

Studies of collective regulatory focus theory are few, yet they recognize the influence a group's regulatory focus has on its team performance (Wallace et al., 2013; Sassenberg, Jonas, Shah, & Brazy, 2007; Lanaj et al., 2012). This study expands current research to better understand how

collective regulatory focus mediates the relationship between team climate for innovation and team performance. Utilizing the finding of past research, this study will act as a building block to improve our knowledge of collective regulatory focus and how it impacts team performance.



## CHAPTER III

### CONCEPTUAL MODEL

#### **Theoretical Background and Hypotheses**

Employee innovation and citizenship in the workplace are both significant components for organizations attempting to maintain their competitive advantage in the global market (Anderson et al., 2004; Foote & Tang, 2008; Parker et al., 2003). Currently in the work-team environment, it is not only important for individuals to perform but for the team as a whole to maximize its performance. Whether it is a permanent or semi-permanent proximal work group or a temporary cross-functional team, understanding the process that motivates and enables team innovation and citizenship is an important area to study in our field (Scott & Bruce, 1994; Wallace et al., 2013). While some research attempts to better understand team performance, this study extends current research by investigating the effect of organizational support on the team process following the I-P-O (input → process → output) framework. My research serves to address a gap in the literature and increase our understanding of the mediating effect collective regulatory focus has on team innovative and citizenship performance. Further, and perhaps more importantly, this research will examine how organizational support moderates the relationship between TCI and collective regulatory focus, thereby explaining increased levels of performance.

As shown in Figure 1, I suggest that team climate for innovation acts as the input to the team process. The process is mediated by the collective regulatory focus that drives the output

variables of innovation and citizenship performance. In Figure 2, I further posit that organizational support functions as a key contextual influence that increases a team's promotion focus for heightened innovation and citizenship performance. It provides the psychological nutrients such as team confidence, encouragement, and the sense of value team members need to enhance these performance outcomes (Lanaj, Chang & Johnson, 2012). My study contributes to the extant literature in several ways. First, I add to the limited research and respond to calls for better understanding of aggregated effect of teams on predicting performance such as team innovation and citizenship performance (Lanaj et al.). My study stands to contribute to better understanding of the situational factors that affect teams based the I-P-O-model. Furthermore, I examine the indirect effect of TCI on performance through collective regulatory focus and how POS moderates this indirect effect in pursuit of the conditional indirect effect.

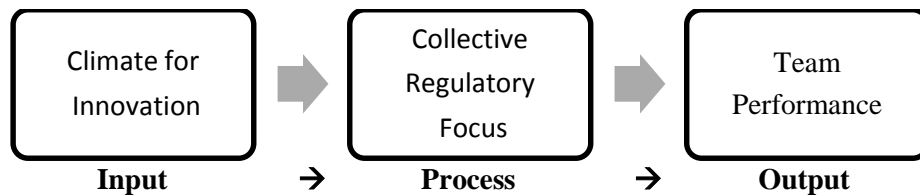


Figure 1: IPO Model for Team Performance

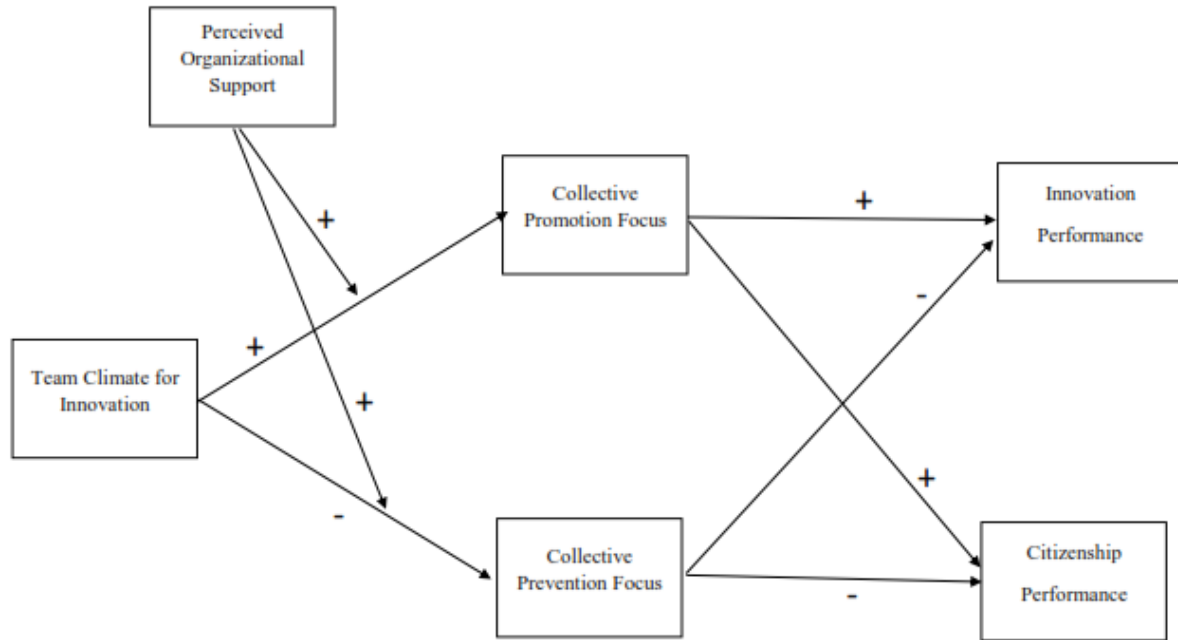


Figure 2: Theoretical Model

### Climate for Innovation and Performance

Innovation performance refers to generating novel and useful ideas and successfully implementing them in an organizational context (Amabile et al., 1996). It consists of not only the generation of new ideas but also their implementation. *Team innovation* is the combination of both the quantity and quality of ideas that are developed and implemented (Pirola-Merlo & Mann, 2004; West, 2002). One could expect team members who had clearly defined shared goals, who are task-focused, who actively participate in decision making, and who are open to innovation to be more likely to work well as a team, to structure their work more effectively, and to be more efficient on their job. Consequentially, these teams should have higher innovation performance. Climate for team innovation is defined as a shared perception at the work-group or organizational level of the extent to which the team process encourages and enables innovation (Anderson & West, 1994). Utilizing West's model for team climate for innovation, multiple studies demonstrate how effective this model is at predicting a team's climate for innovation. This is because the TCI model construct

includes the characteristics necessary to achieve team innovation: vision, participative safety, task orientation, and support for innovation.

Citizenship performance constitutes behaviors that contribute to the social and psychological aspects of the work environment, such as helping a coworker, adhering to informal work policies, making the workplace a better place and creating a positive future for individuals and the organization (Organ, 1988). Researchers show that work contexts that emphasize future goals and outcomes will increase efforts to change something for the better in the future (Strobel et al., 2003). Researchers and organizational leaders continue to call for additional studies to understand the factors associated with individuals OCB (Podsakoff et al., 2009). I take this one step further and extend the body of research in this area by investigating the effect TCI has on a team's OCB. With more emphasis being placed on team performance, understanding the behavior of the team and what drives them to go above and beyond what is expected of them can provide leadership with insight into how to strengthen team performance. The relationships created among team members is characterized by their actions and behaviors. Similarly, the factors of task orientation and vision are relevant because they lead to more efficient task completion. This expands the team's willingness to monitor team progress, team performance, and coordination of team efforts (Marks, Sabella, Burke, & Zaccaro, 2002). Therefore, we expect that teams high in the TCI factors will produce more innovative and higher quality outcomes than low-climate teams. I expect to replicate this relationship in my first hypothesis.

#### H1a: Team Climate for Innovation positively relates to Innovation Performance

Research results show the four climate facets of TCI have a significant positive relationship with team members and team performance beyond measuring team innovativeness (Gonzalez-Roma et al., 2009). Evidence shows that when team members work in an integrated way to capitalize on their strengths and skills, the team has stronger creativity and innovation performance. However, for the team to capitalize on its strengths and skills, it must come together as a cohesive unit, working to help each other and going above and beyond what is simply required. Thus, high citizenship performance

is a likely outcome of TCI. High citizenship performance occurs when the supportive actions and behaviors of a team member is reciprocated by the other members (Blau, 1964). I believe citizenship creates a cohesive bond such that when team members work closely together on an ongoing basis, they enhance one of the key factors of TCI: support for innovation. As team members encourage, value, and support each other, they develop a more concise mission and aspire to increase team performance. As TCI strengthens through participation safety, a comradery will invoke the individual team members compelling need to help each other and go beyond what is expected of them to improve the workplace. The result will be an increase in citizenship behavior. Therefore, citizenship performance should be directly correlated to the team climate for innovation. High team climate for innovation should result in high levels of citizenship performance. Likewise, low team climate for innovation should result in lower citizenship performance. I will investigate this relationship among work teams and trust that this relationship will hold true for my next hypothesis.

H1b: Team Climate for Innovation positively relates to Citizenship Performance

### **Collective Regulatory Focus and Performance**

Promotion and prevention regulatory focus has been found to influence various types of goal attainment in a variety of areas, including negotiation and consumer purchasing (Lanaj et al., 2012). Regulatory focus is significant in the performance domain because promotion and prevention focus influences the strategies that are used in goal attainment and circumvent obstacles that impede reaching those goals (Lanaj et al.). Promotion-focused strategies involve participating in activities that are competitive and seek out higher levels of performance and praise. Prevention-focused strategies refrain from activities that are high in risk and uncertainty. These strategies lead to different effects on behavior and performance level. Because regulatory focus is highly correlated with performance, researchers continue to investigate its role in various types of organizations (Brockner & Higgins, 2001; Wallace, Johnson, & Frazier, 2009). Work teams in a manufacturing environment, for instance, are responsible for accomplishing various tasks on the job, such as

working safely, producing a quality product, and meeting production quotas. For many teams, task responsibilities stress both accomplishment and discipline. This leads one to believe a team and its members' regulatory focus may influence job performance based on the type of desired outcome, such as working safely and making required production numbers. The empirical evidence advocates that promotion and prevention foci are uniquely related to work behavior such as task productivity, innovation, and safety adherence (Wallace et al.). Studies also show that one could possess a regulatory focus at both ends of the spectrum or somewhere in between based on the situation or conditions. Both promotion and prevention foci dictate the strategy used as a guide toward desirable outcomes or away from undesirable ones (Crowe and Higgins, 1997). This would lead one to believe that members of a team can collectively have a team regulatory focus that is shared based on the work environment. Therefore, to extend the call for research on group/team regulatory focus (Wallace et al.), I will investigate the mediating relationship of collective regulatory focus on innovation and citizenship performance.

Present theories of innovation highlight the role of core team input variables such as team composition and structural characteristics for measuring innovation performance. West and Anderson (1992) identify team composition and structural variables such as team member diversity, team size, and tenure as important antecedent conditions of innovation. More recently, task and goal interdependence have been added as variables (Hülsheger, Anderson, & Salgado, 2009). I posit that another variable in team innovation is its collective regulatory focus. Regulatory focus supports a positive relationship between promotion focus and innovation and a negative relationship between prevention focus and innovation (Lanaj et al., 2012). Promotion focus is a somewhat risky practice in which unique ideas are eagerly and actively sought, whereas prevention motivation is risk adverse: an attentive processing style in which repetition and consistency is desired (Crowe & Higgins, 1997; Liberman, Idson, Camacho, & Higgins, 1999). Researchers show that the process style elicited by a promotion focus can enhance creative thoughts, whereas prevention focus may actually undermine creative thought (Higgins, 1997). The team or work group's goals are interdependent, so there is a

logical reason to expect that it will form a collective regulatory focus that will aid in its goal attainment. Once this team collective regulatory focus has been established based on its focus, I posit that the impact on innovation performance will replicate those results found at the individual level in a homological manner and lead to the following hypotheses.

H2a: Collective Promotion focus positively relates to Team Innovation Performance

H2b: Collective Prevention Focus negatively relates to Team Innovation Performance.

Given that regulatory focus shapes how people perceive their environments and their emotional responses to it, promotion and prevention foci most likely influence their perception of their jobs and co-workers. Studies show that regulatory focus can predict work-related perceptions and attitudes (Lanaj et al., 2012). These perceptions and attitudes directly relate to both individual and team citizenship behavior and performance. Several studies in the area of regulatory focus and citizenship have been performed with mixed results. For instance, DeCremer, Mayer, van Dijke, Schouten, and Bardes (2009) show no relationship between prevention focus and citizenship, while Wallace et al. (2009) find a negative relationship between prevention focus and citizenship. Furthermore, Neubert, Kacmar, Carlson, Chonko, and Roberts (2008) find a positive relationship between promotion focus and pro-social behavior, while DeCremer et al. show that they are unrelated. Studies on engagement link strong employee engagement with promotion focus because of the many characteristics these two constructs have in common, including job fulfillment and high performance. In a recent meta-analysis, employee engagement was linked to increased citizenship performance (Christian, Garza, & Slaughter, 2011). Finally, in another recent meta-analysis Lanaj et al. find that a relationship between citizenship behavior and promotion focus enhances citizenship performance, whereas prevention focus enhances preventive-type tasks such as safety performance.

Both the Lanaj and Wallace studies tend to support the theory that promotion focus is tied to increases in citizenship performance because of the extra-role behavior exhibited by promotion focused individuals. Their studies also indicate that there was no relationship between citizenship performance and prevention focus because prevention-oriented individuals are duty bound and thus

feeling no obligation to engage in extra citizenship behaviors. Therefore, the relationship between promotion focus and citizenship performance should be strong. Prevention focus, which is concerned with duties, obligations, and anxiety-based emotions, is incompatible with the performance of extra role behaviors, thus leading to lower citizenship performance. Because of this relationship, citizenship performance is utilized as an important independent variable measured in my study. The mediation of collective regulatory focus will provide an increase affect in the level of performance. My study will extend current research by examining the effect through a team-level analysis. I expect to replicate the findings on promotion and prevention focus and organizational citizenship performance from the individual level to the group level by finding that promotion focus is positively correlated to citizenship performance, and prevention focus is negatively correlated with citizenship performance. This is expressed in the following hypotheses.

H2c: Collective Promotion focus positively relates to Team Citizenship Performance

H2d: Collective Prevention Focus negatively relates to Team Citizenship Performance

### **Team Climate for Innovation and Regulatory Focus**

Team Climate for Innovation (TCI) is a team-level variable that reflects the extent to which the team's work environment is conducive to shared meaning and desired outcomes. The team climate for innovation is the collective perception of vision, participative safety, task orientation, and support for innovation (West, 1990) stemming from the actual behavior and proclaimed policies, procedures, and practices demonstrated by team members. The factors linked to TCI significantly contribute to the regulation of the team members and collective goal attainment actions. Studies have identified other climates that also influence regulatory focus. In a recent study, Wallace and Chen (2006) find that a perceived safety climate influenced regulatory focus strategies in workers' accomplishment of safety and production goals. Linking a climate for safety relates directly to prevention focus. This increased focus on safety based on shared perceptions caused by duty and responsibility resulted in an increase in safety performance. The study also shows that a climate for safety was negatively related



to promotion focus and safety performance. The results of this study provide insight into how team climate can be an antecedent for collective regulatory focus.

When the team climate for innovation is strong, the team is inspired to achieve positive outcomes and accomplish its goals. Clear vision provides the team focus, while participative safety allows team members to feel secure in expressing their opinions and ideas. The result is team members who pull in a single direction and support each other to excel. The innovative climate enhances the team's desire to pursue new ideas and processes regardless of the outcome. Because the team's participative safety is strong, members can fail without blaming each other. In other words, they support each other and help the team through the bad times without fearing the consequences. The ability to suggest new ideas freely along with encouragement from others provides the mechanism needed to ensure high task performance and the support needed for innovation. The context created by a positive TCI drives the team's collective regulatory focus towards promotion-focused characteristics. Likewise, when the climate for innovation is low, teams will tend to lack cooperation and effective goal setting strategies. The team is likely to have poor vision, causing it to have a higher degree of uncertainty. This uncertainty can result in low participative safety and lead to team member insecurities. The lack of security will lead team members to be less open and more protective of their own well-being by avoiding negative outcomes. This behavior will ultimately result in a team with a collective prevention focus, concerned just doing their jobs. This leads me to my next set of hypotheses.

H3a: TCI positively relates to Collective Promotion Focus

H3b: TCI negatively relates to Collective Prevention Focus.

### **Collective Regulatory Focus as a Mediator**

Both innovation and citizenship behavior performance are constantly being influenced by team interaction. Because promotion and prevention foci are considered independent strategies in which one can be predisposed to operate anywhere along the spectrum, a change in focus can change the

outcome of the one's performance. Studies show that individuals can change their focus; therefore, as the team members' interactions change for better or for worse, their collective regulatory focus can fluctuate. Previous researchers have uncovered evidence that the regulatory process affects the contextual factors of outcome. Climate influences regulatory focus, which influences performance and outcome (Kanfer, 1990, 1992; Wallace, Popp, & Mondore, 2006). Thus the collective regulatory focus is more closely tied to performance and a team's success than the team's innovation climate. The result is that the collective regulatory focus mediates the effect of the innovative climate and the team's innovative and citizenship performance by modifying the cognitive and behavioral process within the team. Because regulatory focus plays an important role in modeling behavior, promotion or prevention focus should fully mediate the distal-outcome relationship. Hence, team climate for innovation is likely to predict the team's regulatory focus, which should lead to the prediction of the team's innovation and citizenship performance. I posit that the team's promotion or prevention focus will mediate the relationship between TCI and performance, leading to the next set of hypotheses.

H4a: Collective Promotion Focus mediates the relationship between TCI and Innovation  
Performance

H4b: Collective Promotion Focus mediates the relationship between TCI and Citizenship  
Performance

H4c: Collective Prevention Focus mediates the relationship between TCI and Innovation  
Performance

H4d: Collective Prevention Focus mediates the relationship between TCI and Citizenship  
Performance

### **Perceived Organizational Support (POS) as a Moderator**

Organizational support theory posits that perceived support from the organization stimulates feelings of obligation from employees to help the organization achieve its goals (Eisenberger et al., 2001). Employees usually reciprocate organizational support through greater efforts at work. Thus, organizational support provides employees with an external affirmation that is motivational in nature

fueling self-regulatory activities towards goal-striving. This has been shown at the individual level (Aaker & Lee, 2006; Agrawal, Menon, & Aaker, 2005; Higgins, Cesario, Hagiwara, Spiegel, & Pittman, 2010; Spiegel, Grant-Pillow, Higgins, 2001), and I expect to find support for it at the group level as well. Furthermore, I expect a group's POS will moderate the effect of team climate for innovation on collective regulatory focus of promotion but not collective prevention regulatory focus. In short, this is due to POS providing an important source of socio-emotional resources such as respect, caring and tangible benefits needed by employees (Eisenberger et al., 1990). For instance, a team with a high TCI will likely exhibit a collective promotion focus. However, if the team feels it is highly supported in its endeavors, its level of promotion focus will likely be even higher. This is due to the creation of a regulatory fit between contextual elements of the group (TCI) and the organization (POS), leading to a higher promotion focus and ultimately stronger innovation and citizenship performance. However, I suspect there will likely be a mismatch and the same fit will most likely not occur with regard for a prevention focus. I explain the theoretical foundation for these expectations below.

Regulatory focus theory suggests that individual's promotion and prevention foci are sensitive to contextual features (Higgins, 2000). In an organization, the implication is that exposure to certain situational cues or events (organization climate, leadership support) may shape the regulatory focus that emerges while employees are at work and subsequently their work behavior (e.g., Johnson, Rosen, & Chang, 2011; Kark & Van Dijk, 2007; Neubert et al., 2008; Wallace & Chen, 2006). Promotion focus is a motivational condition that is sensitive and regulated around the presence or absence of positive outcomes. Likewise, prevention focus is a motivational condition that is sensitive and regulated around the presence or absence of negative outcomes. Literature suggests that the combination of a supportive and challenging environment sustains particularly high creativity in individuals and teams (McLean, 2005). In a work environment where teams and their members are supported, team members will feel comfortable trying new ideas and taking risks because they know they will be supported regardless of the outcome. Therefore, a team is more

likely display innovation and citizenship performance if the organization and the work team are perceived as open to change (i.e., high TCI and POS), if the organization encourages and values new ideas and recognizes and rewards positive outcomes, and if support is provided by managers, supervisors, and other team members (Amabile et al. 1996; Madjar, Oldham, & Pratt, 2002; Shin & Zhou, 2003). This is caused by the creation of a stronger collective promotion-focused team.

The integration of self-determination theory (Deci & Ryan, 1985, 2000, 2008) and regulatory focus theory (Higgins, 1997, 1998) has been utilized in past research to explain how certain characteristics of individuals and their work contexts function in conjunction to promote self-directed motivation and provide opportunities for employee innovation. The main aspect of self-determination theory (SDT) has been related to increased vitality, motivation, engagement, and multiple facets of performance (Baard, Deci, & Ryan, 2004; Deci & Ryan, 2012; Deci, Ryan, Gagné, Leone, Usunov, & Kornazheva, 2001; Deci & Ryan, 2008). Researchers show that the work environment can provide development-oriented employees with a heightened sense of self-determination, volition, and freedom from organizational constraints and pressures. This provides a means for a team climate for innovation to operate as a key contextual influencer to meet promotion-focused employees' needs (Wallace et al., 2013). Expanding on this research, I will investigate the impact that POS has on the TCI → Promotion and the TCI → Prevention relationship at the collective level. POS provides another group contextual input that compliments TCI for development-oriented employees, thereby providing more vitality, motivation, and engagement – all aspects that fuel promotion focus (Wallace et al.).

Ideally, this will work if both POS and TCI is high. If organizational support is perceived to be high, then it is possible that cyclical interactions occur such that work-group members exhibit support for each other, just as they perceive the organization to be supportive. The result is that individuals engage in mutually beneficial actions within the group, giving rise to a collective perception of organizational support. Hence, when organizational support is high and employee interactions are positive, support could be a favorable influence on the relationship between

collective regulatory focus and TCI by providing additional socio-emotional resources (Wallace, Edwards, Arnold, Frazier, & Finch, 2009). In addition, Hochwarter, Witt, Treadway, & Ferris (2006) suggest that organizational support extends beyond the norm of reciprocity in that high organizational support offers employees additional resources that better enable them to accomplish work objectives.

Hochwarter et al. (2006) argue that beyond providing socio-emotional support, high organizational support should also provide resources in the form of better work conditions and additional funding for newer technology or equipment. Thus it is possible for high organizational support to further aid workers in meeting challenges and increasing performance by providing additional resources and facilitating cooperation among group members (Witt & Carlson, 2006). Therefore, it is expected that the relationship between TCI and collective promotion focus will be stronger with higher levels of organizational support due to the increased availability of resources and to reinforcement from socio-emotional support. Similarly, I expect organizational support to aid employees experiencing low TCI because high levels of support should buffer the negative effects of low TCI by providing socio-emotional support and additional resources that increase employee affect. Although support may not change the collective regulatory focus from prevention to promotion, the expected relationship should result in a less negative prevention focus when higher organizational support is perceived.

I suggest that perceived organizational support allows for activities and behaviors that provide psychological “nutriments” (i.e., autonomy, relatedness, and competence) to satisfy fundamental human needs (Deci & Ryan, 2000). These psychological nutriment are supplied in a supported work group in the form of opportunities for participation in decision making among groups, providing avenues for training and development, and — perhaps most important — allowing the work group freedom to work autonomously through encouraged self-initiative. However, motivational benefits of the psychological nutriment provided by a high POS may depend on group characteristics (e.g., climate) just as this process depends on individual characteristics at the

individual level (e.g., personality, Wallace et al., 2013; thriving, Spreitzer, Porath, Gibson, & Garnett, 2012; emotion, DeCremer, 2004; self-esteem, DeCremer & Sedikides, 2005; cooperation, DeCremer & Tyler, 2007). Defining this occurrence in terms of the “match hypothesis,” SDT proposes that people who are development-focused are the ones who are more motivated in climates that are more autonomy-supportive, such as TCI, resulting in positive performance and better well-being (Gagné & Deci, 2005). POS matches this group characteristic and provides an extra boost in terms of adding more psychological nutrients. However, this is still conditional based upon the regulatory fit outcome. TCI and POS provide such an optimal regulatory fit for a promotion focus, but not for a prevention focus. This is because a prevention focus is more concerned with duty and responsibility, which does not fit with a TCI. Even with additional nutrients provided by POS, a prevention focus is likely to be only slightly influenced because TCI does not fit with a prevention focus. Hence, POS and TCI in combination will likely result in promotion focus being manifested, but not prevention focus. Therefore, I propose only one conditional indirect effect. This provides the basis for the following hypothesis.

H5a: POS will moderate the relationship between TCI and Promotion Focus such that when POS is high the mediated relationship of TCI to Innovation and Citizenship Performance via Promotion Focus is more positive.

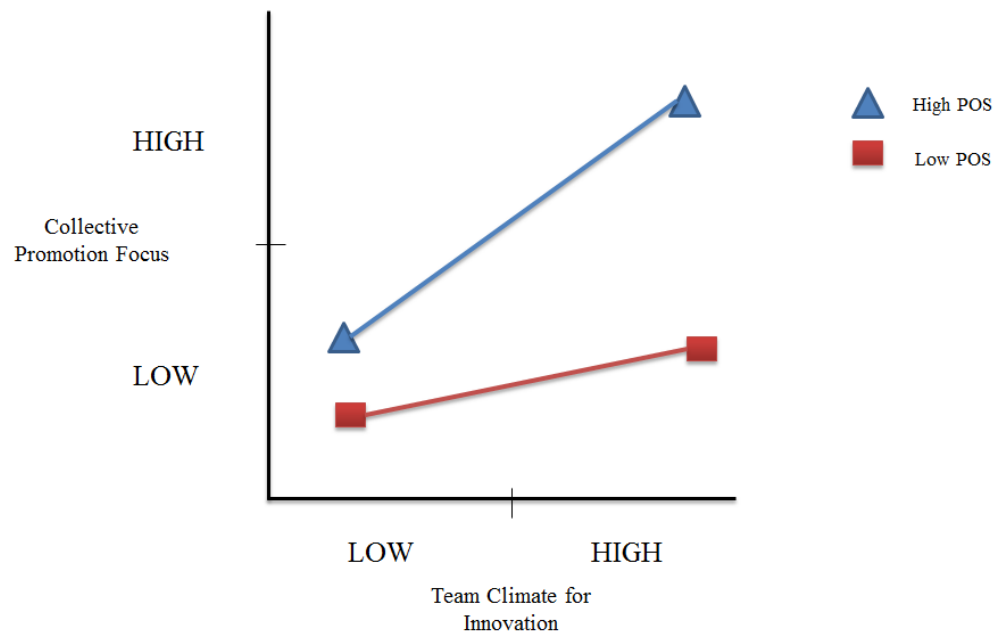


Figure 3: Interaction of TCI and POS on Collective Regulatory Focus

## CHAPTER IV

### METHODOLOGY

#### **Methods**

Archival data from work groups at a Midwest U.S. manufacturer of metal products were used as participants for this research project. The company has over 1,100 employees working in three states in eight different facilities. Their products range from commodities to highly specialized products in a make-to-order environment. The company has been in business for over 40 years and has seen a continuous growth rate that allows it to double in revenue approximately every seven years. The company is nonunionized and continues to be managed by the founder and his family. The company consists primarily of low-skilled manufacturing workers with engineers and other technical support positions at the manufacturing facilities. Corporate office personnel consist of various support positions including sales, accounting, and information systems. Participants completed a survey regarding team climate, perceived organizational support, and regulatory focus.

Team members were asked to fill out the survey on their own without consulting their fellow team members. Employees with company email addresses received a link to the survey via their email home address. Other employees, such as shop workers, were administered the survey via paper at scheduled crew meetings by trained researchers. The participants were asked several demographic questions regarding their length of service, shift worked (days, nights, rotation),



age, and the division in which they worked. Since performance evaluations were also administered at a later date by their immediate supervisor, employees were asked to provide their names on the survey. However, the employees were told that this information would be kept confidential and their names would be converted to an ID number for analysis purposes.

Immediate supervisors for each participant provided a brief performance evaluation based on the participant's innovation and citizenship performance. The immediate supervisor is defined as the individual for whom the employee directly works and who performs the employee's normal performance evaluation. This supervisor could have a title other than supervisor such as manager, director, vice president, etc. The human resource department provided a list of employees for each supervisor. Supervisor received an email with a link to the survey site, a logon ID, and password. Once logged on, supervisors had access to only the employees assigned. Supervisors filled out a survey for all his/her direct reports regardless of whether the employee completed the first survey. Therefore, the supervisor had no knowledge of who in their work group completed the first survey. For this study, work teams were determined based on all employees who report to the same supervisor. If the supervisor had less than two employees, the determination to include or excluded the team results was made after surveys were complete. Therefore, it is possible that a work group may consist of more than one supervisor for some of the smaller administrative departments. The data sample should net between 50 and 100 work teams with at least two team members each, ensuring that statistical significance can be achieved.

## **Measurements**

### *Team Climate Inventory*

TCI has been validated as an effective measurement of team climate in numerous countries, including France, Greece, Italy, Taiwan, Sweden, Australia, and Norway, just to name a few (Chatzi & Nikolaou, 2007; Ragazzoni et al., 2002; Tseng. et al., 2009; Mathisen et al., 2004; Agrell & Gustafson, 1994). Thus, I utilized it to collect information regarding team climate for

innovation. The extensive developmental work on the TCI is reflected in acceptable internal consistency reliabilities (Anderson & West, 1994) as measured by alpha coefficients for the four scales (.84 to .94) and their subscales (.73 to .91). Agrell and Gustafson report alphas in the .86 to .91 range for the four scales. There are also substantial interrelationships among the scores; for example, Anderson and West report correlations in the .35 to .62 range among scores from the scales and subscales.

Research shows support for the construct, discriminant, and predictive validity of the four TCI scale score. The Agrell and Gustafson (1994) research provides support for the construct validity of the TCI, and further research by West and Anderson (1992) finds support for the predictive validity of TCI scores. In 1999, Kivimaki and Elovainio (1999) used two Finnish samples of social and health care staff ( $N = 1,494$  and  $N = 771$ ) to develop a short version for use when the 38-item TCI was considered too long. The final short version from their LISREL analyses comprises 14 items reflecting Vision (four items), Participative Safety (four items), Task Orientation (three items), and Support for Innovation (three items). The alpha coefficients for the 14-item short version ranged from .90 to .92 in the two samples and from .79 to .86 for the four shortened scales. Correlations between scores from the short version and the original TCI ranged from .85 to .97, indicating that the short version provides acceptable item coverage and predictive validity. These results were confirmed by Loo and Loewen in 2002.

The TCI factor has a range from “strongly disagree” to “strongly agree,” in which higher scores indicate a better or more desirable team climate. Scores for each item in the scale are added to determine the scale score. Scale means are calculated to maintain the original five-point scale for all scales and subscales, even though the number of items varies from measure to measure. Participants are asked to indicate the extent to which they agreed with each item on a five-point Likert scale from 1 = strongly disagree to 5 = strongly agree. The complete list of questions can be found in Appendix A.

### *Regulatory Focus*

Promotion and prevention focus items were adapted for use in the present study on the basis of items on the general regulatory focus scale developed by Lockwood, Jordan, and Kunda (2002) and items reported in Wallace, Little and Shull (2008). This scale includes nine items measuring general promotion (e.g., “I frequently imagine how I will achieve my hopes and aspirations,” “I typically focus on the success I hope to achieve in the future”) and nine items measuring general prevention (e.g., “I am focused on preventing negative events at work,” “I am anxious that I will fall short of my responsibilities and obligations”). Participants responded to these items using a nine-point Likert scale (1 = not at all true of me, 9 = very true of me). Previous use of this scale was found to be internally consistent (for promotion,  $\alpha = .81$  to  $.88$ ; for prevention,  $\alpha = .75$  to  $.83$ ) and to provide good psychometric validation evidence (Lockwood et al., 2002; Lockwood, Chasteen, & Wong, 2005). The entire list of questions is provided in Appendix A.

### *Organizational Support*

Perceived organizational support was measured using 10 items from the Eisenberger et al. (1986) measurement that utilized a five-point scale ranging from 1 (*completely disagree*) to 5 (*completely agree*). Example items are “The company values my contribution to its success” and “Help is available from the company when I have a problem.” Wallace and colleagues (2009) determined that the aggregation was viable and that within- and between-group homogeneity was present within naturally occurring groups. Prior studies utilizing this scale across numerous occupations and organizations provide the evidence of high internal validity with factor loading ranging from  $.71$  to  $.84$  (Eisenberger et al.; Eisenberger et al., 2001). A complete list of questions can be found in Appendix A.

### *Innovation*

To measure the dependent variable of innovation performance, I used four general innovation performance items representing employee innovation that were developed by

Welbourne, Johnson, and Erez (1998). The questions were used because they best capture not only the development of novel and useful ideas but also the implementation and application of such ideas. The survey was validated using an exploratory factor analysis with innovation performance having an eigenvalue of 8.05 and a coefficient alpha of .90 (Welbourne et al.). Innovation performance items include “Coming up with new ideas and implementations” and “Creating better processes and routines.” Supervisors provided ratings of their employees’ innovation performance using a five-point scale (1 = *needs much improvement*, 5 = *excellent*). A complete list of questions can be found in Appendix A.

### *Citizenship*

Citizenship performance was measured using four items consistent with those developed by Welbourne, Johnson, and Erez (1998) to measure citizenship aimed at one’s peers. Supervisors were asked to provide ratings of their employee’s citizenship performance utilizing a five-point scale (1 = *needs much improvement*, 5 = *excellent*). The survey was validated using an exploratory factor analysis; citizenship performance had an eigenvalue of 1.37 and a coefficient alpha of .87 (Welbourne, Johnson, & Erez). Past research reports reliability estimates ranging from .76 (Lubbers, Loughlin, & Zweig, 2005), to .91 (Bauer, Erdogan, Liden, & Wayne, 2006). The citizenship performance items consisted of: “Working as part of a team or work group” and “Responding to the needs of others in his/her work group.” A complete list of questions can be found in Appendix A.

## **Analysis**

### *Psychometrics*

The initial phase of the analysis process will consist of evaluating the psychometrics of all measurements to ensure acceptable internal consistencies of the measures as well as the expected factor structure. Confirmatory factor analysis will be utilized to appraise the factor structure and its reliability.

### *Aggregation*

In order to establish the validity of aggregate variables from the individual to the group level, an acceptable level of within-group homogeneity and between-group heterogeneity and the group itself is required and it must occur naturally (Bliese, 2000). Within-group homogeneity entails the individual responses on a measure of agreement and are reliable to authenticate the groups' acting in a cohesive manner. Rwg (j) estimates the interrater agreement for a group by comparing the variance associated with a particular variable within a group to the expected variance within that group (James, Demaree, & Wolf, 1984). The typical cutoff at which within-group agreement is generally accepted is an Rwg (j) greater than or equal to 0.70 (Lance, Butts, & Michels, 2006). The other component needed to establish within-group homogeneity is reliability. Reliability is the consistency of ratings within the group. Intraclass correlation coefficients (ICC) are an indicator that measures the reliability of a group-level variable. ICC (1) represents the amount of variance attributable to the members in a group and is known as the interrater reliability of the group (James, 1982). ICC (2) represents the reliability of group means (Bliese, 2000). If the ICC (2) value is greater than or equal to 0.70, I assume that group means are reliable (Bliese, 2000).

Another condition that should be satisfied for aggregation to be justified is variance between groups. This can be satisfied using an analysis of variance (ANOVA) f-test to identify the presence of statistical differences between groups. A significant result of the ANOVA indicates that there is adequate between-group variance to establish heterogeneity.

Once between-group heterogeneity and within-group homogeneity is verified, the final process in the validation of variable aggression is determining whether the group is naturally occurring or a statistical artifact (Bliese, 2000). This is important because it is possible to create artificial groups that have the anticipated group characteristics using statistical techniques such as cluster analysis. Therefore, this final analysis is to ensure that the groups in the study are the result of natural action rather than analytical action.

## Hypothesis Testing

Once aggregation has been completed, the next step will be to evaluate the hypotheses using several statistical analyses. For Hypotheses H1a & b, H2a & b, and H3a & b, the Pearson Product-Moment Correlation Coefficient ( $r$ ) or correlation coefficient will be utilized. The correlation coefficient is used to measure the degree of linear relationship between two variables. The sign of the correlation (+, -) defines the direction of the relationship with a positive correlation meaning that both values increase together. Taking the absolute value of the correlation coefficient measures the strength of the relationship. A correlation coefficient of  $r = 1$  indicates a perfect linear relationship while an  $r = 0$  indicates the absence of a relationship. Once the correlation coefficients are derived, regression analysis will be used to assess the magnitude of the interaction effects of the moderating variables (Collective Promotion Focus and Collective Prevention Focus) by determining the incremental  $R^2$  value.

## Test for Mediation

To test Hypothesis H4, simple mediation analysis will be performed. To test for mediation, I will first use the Baron and Kenny (1986) four-step approach in which several regression analyses are conducted and the significance of the coefficients are examined in each step. Then I will go beyond this step by testing the indirect effects through moderated and indirect macros from Preacher and Hayes (2004). In the first step is a simple regression analysis with  $X$  predicting  $Y$  where  $X$  is the team climate for innovation (TCI) and  $Y$  is the performance. The models for each are:

$$\text{Innovation Performance IP} = B_0 + B_1\text{TCI} + e. \text{ Where } e \text{ is the standard error.}$$

$$\text{Citizenship Performance CP} = B_0 + B_1\text{TCI} + e.$$

Step 2 will consist of conducting a simple regression analysis with TCI predicting collective regulatory focus: (CProF = collective promotion focus, CPreF = collective prevention focus) utilizing the following models:

$$CProF = B_0 + B_1TCI + e.$$

$$CPreF = B_0 + B_1TCI + e.$$

Step 3 will consist of conducting a simple regression analysis with the mediator (collective regulatory focus) predicting performance. The models for each measure are:

$$IP = B_0 + B_1CProF + e.$$

$$CP = B_0 + B_1CProF + e.$$

$$IP = B_0 + B_1CPreF + e.$$

$$CP = B_0 + B_1CPreF + e.$$

Finally in the fourth step, a multi-regression analysis will be conducted with both TCI and collective regulatory focus predicting performance. The following models will be used to conduct the analysis.

$$IP = B_0 + B_1TCI + B_2CProF + e.$$

$$IP = B_0 + B_1TCI + B_2CProF + e.$$

$$CP = B_0 + B_1TCI + B_2CProF + e.$$

$$CP = B_0 + B_1TCI + B_2CProF + e.$$

The purpose of steps 1 to 3 is to establish that zero-order relationships exist among the variables because if one or more of these relationships are not significant, researchers usually conclude that mediation is not possible or likely (MacKinnon, Fairchild, & Fritz, 2007). Some type of mediation is supported if the effect of the mediator remains significant after controlling for the input (TCI) (MacKinnon, 2008). Because this method has sometimes missed some true mediation effects (Type II errors), calculating the indirect effect and testing for significance will also be performed (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). The Judd and Kenny (1981) difference of coefficient approach will be used. This approach uses models from steps 3 and 4 and involves subtracting the partial regression coefficient in Step 4 model  $B_1$  from the simple regression coefficient found in Step 3 model B. The indirect effect is the difference between these two coefficients ( $B_{\text{indirect}} = B - B_1$ ). Once the regression coefficient for the indirect effect is determined, it will be tested for significance using the macro developed by Preacher and Hayes (2004) for use in SPSS, which utilizes a normal theory approach, bootstrapping to obtain confidence intervals, and the approach developed by Baron and Kenny (1986).

### *Moderated Regression*

The moderation model tests whether the prediction of a dependent variable (Performance) from an independent variable (TCI) differs across levels of a moderating variable (Perceived Organizational Support). Moderation effects are tested with multiple regression analysis where all predictor variables and their interaction terms are centered prior to model estimation to improve interpretation of regression coefficient (Aiken & West, 1991). A single regression equation forms the basic moderation model.

$$IP = i + a_1(TCI) + a_2(POS) + a_3(TCI * POS) + e.$$

$$CP = i + a_1(TCI) + a_2(POS) + a_3(TCI * POS) + e.$$

### *Moderated-Mediated Regression*

The final part of my analysis is the evaluation of the hypotheses using moderated-mediated regression. By simultaneously investigating mediation and moderation, the effects may not only be disentangled and analyzed separately but can also be evaluated together (Fairchild & MacKinnon, 2009). Preacher and Hayes (2004) suggest this form of analysis be used when models have multiple mediators because mediators may be better estimated through the simultaneous inclusion of all variables at one time. The two primary effects analyzed by researchers are (a) the mediation of moderator effects and (b) the moderation of an indirect effect. Several models to simultaneously test mediation and moderation effects have been developed (e.g., Edwards & Lambert, 2007; James & Brett, 1984; Preacher, Rucker, & Hayes, 2007). For this study, I will follow the guidelines and test a path model created by Preacher, Zyphur, and Zhang (2010). The complete model includes innovation performance (IP) and citizenship performance (CP) as the dependent variables with team climate for innovation (TCI), Collective Prevention Focus (CPreF), Collective Promotion Focus (CProF), and perceived organizational support (POS) as predictors. The final set of equations includes the total theoretical model.

$$IP = i + c_1TCI + c_2POS + c_3TCI * POS + c_4CProF + c_5CPreF + c_6POS * CProF$$



$$+ c_7\text{POS} * \text{CPreF} + c_8\text{POS} * \text{CProF} * \text{TCI} + c_9\text{POS} * \text{CPreF} * \text{TCI} + e.$$

$$\text{CP} = i + c_1\text{TCI} + c_2\text{POS} + c_3\text{TCI} * \text{POS} + c_4\text{CProF} + c_5\text{CPreF} + c_6\text{POS} * \text{CProF}$$

$$+ c_7\text{POS} * \text{CPreF} + c_8\text{POS} * \text{CProF} * \text{TCI} + c_9\text{POS} * \text{CPreF} * \text{TCI} + e.$$

The relevant equations will be estimated using the regression module in SPSS (SPSS Inc., 2013). Since moderated path analysis uses products of coefficients to estimate interactions, indirect and total effects, 1,000 bootstrapping samples were used to estimate the coefficients. The simple main effects will be tested for significance using the t-test generated in the SPSS regression. To test for moderation and mediation the MODMED macro built by Hayes in SPSS will be used. The indirect and total effects will be tested for significance using bias corrected confidence intervals from the results of the CNLR module's generation of bootstrap samples.

## CHAPTER V

### RESULTS

In this chapter, the results of this study are presented in three sections. The first section contains evidence of the psychometric validation of the measurements used in the study. The analysis consists of evaluation of the internal consistency of the measures as well as the confirmation of the factor structure. The second segment appraises the aggregation of the individual-level measures to the constructs at the group level through within-group homogeneity, between-group heterogeneity, and the reliability of the measures (Bliese, 2000). Finally, the hypotheses were tested using Pearson Correlation and regression analysis with bootstrapping techniques. Descriptive data and zero-order correlations can be found in Table 1 for the overall dataset.

Table: 1  
Descriptive Statistics

	M	SD	1	2	3	4	5
1 Prevention Focus	4.10	1.85					
2 Promotion Focus	6.72	1.52	.118**				
3 POS	3.46	0.80	-.052	.219**			
4 TCI	3.58	0.63	-.131**	.215**	.561**		
5 Innovation	3.46	0.85	-.109*	.004	.050	.018	
6 Citizenship	3.80	0.80	-.104*	.015	.163**	.062	.673**

\*\*. Correlation is significant at the 0.01 level (2-tailed)

\*. Correlation is significant at the 0.05 level (2-tailed)

## **Data Collection**

Data were collected for from 791 employees; however, because the employee survey was matched with the supervisor's performance evaluation, only 550 match sets were used in this analysis. Of those 550 match sets, two were eliminated due to missing all perceived organizational support values and one additional data point was removed because the POS scores were entered in error with values outside the scale range. No more than one missing value was found for each of the remaining data points for any given factor; thus, no other records were removed for missing or bad data. The remaining values were averaged to create the overall factor score. Because this study measures collective behaviors, 24 data points were removed because they consisted of only one employee score for the supervisor, leaving a total of 523 data points. This left an aggregated sample size of 92 with an average number of employees in the sample of 5.6 per group.

## **Psychometrics**

### *Team Climate Inventory*

A short version of the Team Climate Inventory (Anderson & West, 1998) was published by Kivimäki and Elovainio (1999) that reduced the number of questions from 34 to 14. The short version created a faster and less burdensome survey for the subjects; therefore, it was used in this study. The short version of the TCI survey can be found in Appendix A. This short version of TCI-s produced an acceptable level of internal consistency with a Cronbach alpha coefficient ( $\alpha$ ) of .92 and an eigenvalue ( $\lambda$ ) of 7.2124. This is consistent with the results found by Kivimäki and Elovainio of alpha coefficients range from .90 to .92. Confirmatory factor analysis (CFA) was conducted using SAS JMP 10.0 to ensure an appropriate factor structure for TCI for all 14 items. Four items did not collapsed onto their respective four factors and were removed from the analysis. With the four items removed, at least two items remained on each factor. The remaining 10 items collapsed onto their respective four factors indicating that the higher order

TCI construct could be utilized, representing the items of the Team Climate Inventory. The remaining 10 items had a Cronbach alpha coefficient ( $\alpha$ ) of .91.

To determine model fitness, several measurements were calculated using SAS JMP 10.0 structure equation modeling (SEM), Chi-Square ( $\chi^2$ ), comparative fit index (CFI), standardized root mean square residual (SRMR), and root mean square error of approximation (RMSEA).  $\chi^2$  is a traditional measurement used to evaluate overall model fit and evaluate the magnitude of discrepancy between the same and the fitted covariance (Hu & Bentler, 1999). When large sample sizes are used  $\chi^2$  can lack the necessary discrimination between a good fitting and poor fitting model. To minimize the impact of sample size on the model, Wheaton and colleagues (1977) recommend measuring the relative/norm Chi Square ( $\chi^2/df$ ). Tabachnick & Fidell (2007) recommend that the value be greater than 5 but no less than 2. CFI evaluates the null/independence model by comparing the same covariance matrix with the null model. According to Hu and Bentler, a value greater than .95 is considered as indicative of good fit. SRMR is another indicator of model fit. Values for the SRMR range from zero to 1.0; good fitting models have values less than .05 (Diamantopoulos & Siguaw, 2000), but values as high as .08 are deemed acceptable (Hu & Bentler). Finally, RMSEA is also considered a good measure for determining fit and is considered one of the most informative fit indices because it is sensitive to the number of estimated parameters in the model (Diamantopoulos and Siguaw). Current researchers believe a cut off value close to .06 or .07 will provide an adequate fit with a well-fitting model closer to zero (Hu & Bentler; Steiger, 2007)

The results for the factor model fit for the TCI construct showed good fit ( $\chi^2_{27} = 144$ ,  $\chi^2/df = 5.3$ , CFI = 0.9739, SRMR = 0.0262, RMSEA = 0.0713). Since all item loadings were found to be significant, the four-factor model items were combined to create the higher order team climate for innovation factor. Because there is a general desire for theoretical models to be parsimonious, I retain the single factor measure for use in my theoretical model.

### *Regulatory Focus*

The Regulatory Focus Scale (RFS) (Lockwood et al., 2002) is theoretically constructed of two factors, promotion regulatory focus and prevention regulatory focus. Utilizing all 18 items, the internal consistency resulted in an alpha coefficient for all 9 items of promotion focus of  $\alpha = .89$  and an eigenvalue ( $\lambda$ ) = 4.895. The internal consistency resulted in an alpha coefficient for prevention focus of  $\alpha = .80$  and an eigenvalue ( $\lambda$ ) = 3.4866 with all 9 items. Confirmatory analysis was performed with SAS JMP 1.0 utilizing a maximum likelihood Obvarimax factor analysis to evaluate the RFS to determine whether the items would load on their related regulatory factor. Three prevention focus items and four promotion focus loaded with less than .5 or loaded on the incorrect factor and were thus removed as items for the scale. Confirmatory factor analysis was performed again with the remaining 10 items loaded, and all items loaded correctly onto their related regulatory factor. After these items were removed, the confirmatory factor analysis of the two-factor model of regulatory focus gives poor fit with regard to recommendations by Hu and Bentler (1999) ( $\chi^2_{43} = 281$ ,  $\chi^2/df = 6.7$ , CFI = 0.89, SRMR = 0.0931, RMSEA = 0.106). The fit for the individual factor structure of prevention and promotion focus also showed marginal to poor fit for both Promotion ( $\chi^2_5 = 84.5$ ,  $\chi^2/df = 16.9$ , CFI = 0.928, SRMR = 0.0624, RMSEA = 0.178) and Prevention ( $\chi^2_9 = 49.9$ ,  $\chi^2/df = 5.54$ , CFI = 0.955, SRMR = 0.0385, RMSEA = 0.0946). The internal consistency alpha coefficients were  $\alpha = .802$  for prevention focus and  $\alpha = .841$  for promotion focus for the revised factors. However, while results indicate that fit is only marginal, based on previous theoretical justification and past empirical and psychometric research, the two -actor model is supported (e.g., Wallace et al., 2008). Therefore, I retained the two-factor model for this study because of the past research. However, further analysis is needed to understand the discrepancy with past studies.

### *Perceived Organizational Support*

Eisenberger et al. (1986) utilized 10 items to determine the level of Perceived Organizational Support. Utilizing all 10 items, the internal consistency alpha coefficient was  $\alpha = .94$  and the eigenvalue was  $(\lambda) = 6.4934$ . Confirmatory factor analysis was performed against the 10 items, and all items loaded correctly. Since all items loadings were found to be significant and all items for the POS construct loaded properly onto the three sub-factors, the model was combined to create the higher order perceived organizational support factor. Because there is a general desire for theoretical models to be parsimonious, I retain the single factor measure for use in the theoretical model. The results for the higher order factor model fit the data as well and is considered a good fit ( $\chi^2_{35} = 163.6$ ,  $\chi^2/df = 4.8$ , CFI = 0.9616, SRMR = 0.0325, RMSEA = 0.0851).

### *Performance*

Two measures of performance developed by Welbourne et al. (1998) were collected. The four-item innovative performance measure produced an acceptable internal consistency level ( $\alpha = .95$ ) and an eigenvalue ( $\lambda$ ) of 3.445. The four-item citizenship performance measure produced an acceptable internal consistency level ( $\alpha = .93$ ) and an eigenvalue ( $\lambda$ ) of 3.300. CFA analysis was conducted on these output variables, innovation and citizenship performance, to examine construct distinctiveness. The CFA was performed using SAS JMP maximum likelihood Obvarimax factor analysis to ensure appropriate factor structure for both innovation and citizenship performance with all items from these constructs load onto their related factors. The results for the innovation model fit the data as well ( $\chi^2_2 = 45.56$ ,  $\chi^2/df = 22.7$ , CFI = 0.9800, SRMR = 0.0178, RMSEA = 0.1997). The results for the citizenship model fit the data as well ( $\chi^2_2 = 40.30$ ,  $\chi^2/df = 20.15$ , CFI = 0.9800, SRMR = 0.0237, RMSEA = 0.1873). Both performance construct items provided good fit with all items remaining for each factor.

### *Overall Model.*

CFA analysis was conducted on the input variables of TCI and POS to examine construct distinctiveness. The CFA was performed using SAS JMP 10.0 maximum likelihood Obvarimax factor analysis to ensure appropriate factor structure for all input variables. All items from these constructs loaded onto their related factors. CFA was then evaluated using TCI-S, POS, and the remaining regulatory factors. The maximum likelihood Obvarimax factor analysis results showed the items were properly loading on the appropriate factor structure. Finally, CFA was performed on the entire model with all six constructs. All items for each of the six constructs loaded properly on the expected construct. Finally, the all six constructs were loaded to determine overall model fit using SAS SEM. The results for the factor model fit the data as well ( $\chi^2_{687} = 1,418.05$ ,  $\chi^2/df = 2.2$ , CFI = 0.9369, SRMR = 0.0486, RMSEA = 0.0477). The results indicate the overall model is a good fit with some indicators presenting a marginal fit.

### **Assessment of Aggregation**

In order to aggregate data at a higher level, three validation procedures must be accomplished (Bliese, 2000). First, the group-level construct must be recognized by evaluating the within-group homogeneity; second, it must show that there is between-group heterogeneity. Finally, the group must not be a statistical artifact and naturally exist.

Within-group agreement refers to the degree to which ratings from individuals are interchangeable. Thus, agreement reflects the degree to which raters provide essentially the same rating (Kozlowski & Hattrup, 1992; Tinsley & Weiss, 1975). The mostly widely used measurement for accessing the within-group homogeneity is the  $Rwg_{(j)}$  statistic utilizing the uniform null and normal distributions (James et al., 1984). I use this measurement on the six constructs; the results are shown in Table 2. Only one group, prevention focus, lacks within-group agreement. With the remaining groups with within-group agreement as reflected by an  $Rwg_{(j)}$  value greater than 0.70 and an acceptable average  $Rwg_{(j)}$  across that entire sample

suggest that on the whole within-group agreement is present.

To assess homogeneity, the ICC(1) value, which deducts the proportion of variance explained by group membership, was used. In most cases, this value ranges from 0 to 1; whereas the ICC approaches a value of one, there is perfect agreement between raters. As the ICC approaches a value of zero, there is no agreement between rater. The second value derived measuring agreement is ICC(2), which provides an estimate of the reliability of the group means. Using supervisor ID as the grouping mechanism, ICC (1) and ICC (2) were calculated for each dependent and independent variable. Two groups, prevention focus and promotion focus, failed to meet the acceptable levels of greater than .04 for ICC (1) or ICC(2). None of the factors meet the requirement of an ICC greater than .75 for excellent reliability, and citizenship performance ICC(2) value for this sample is the only factor above the rule of thumb cut-off of 0.70.

Table 2.  
Interrater Agreement and Reliability

	Rwg(J).uniform		F ratio	p-value	ICC(1)	ICC(2)
	Mean	SD				
TCI	0.92	0.16	1.60	0.001	0.07	0.37
POS	0.81	0.31	2.17	0.000	0.17	0.56
Prevention	0.33	0.38	0.89	0.759	-0.02	-0.13
Promotion	0.70	0.32	0.74	0.960	-0.05	-0.35
Citizenship	0.87	0.19	3.29	0.000	0.29	0.70
Innovation	0.83	0.22	2.44	0.000	0.20	0.59

Based on ICC(1) and  $Rwg_{(j)}$ , a good within- and between-group homogeneity exist for the two factors measured by the supervisors, citizenship and innovation performance. Likewise, the ICC(2) and  $Rwg_{(j)}$  for perceived organizational support also show good group homogeneity with a weaker between group homogeneity for TCI. Finally, using all three measures, I was unable to establish either within- or between-group homogeneity with both prevention and



promotion regulatory focus. Based on this analysis, prevention and promotion focus are not supported for aggregation and TCI is weak because all three multilevel organizational research reliability measurements of homogeneity —  $Rwg_{ij}$ , ICC(1), and ICC(2) — are inadequate for aggregation.

Between groups heterogeneity was established by the significant F-test of the one-way ANOVA and ICC(2). The F-ratio measures how different the means are relative to the variability within each sample. The larger this value, the greater the likelihood that the differences between the means are due to something other than chance alone, namely real effects. If the difference between the means is due only to chance, then there is no real effect and the expected value of the F-ratio would be one. The results shown in Table 2 show that between-group heterogeneity was established for POS, citizenship, and innovation performance but marginal for TCI. Again, promotion and prevention regulatory focus fail to meet the required values for group heterogeneity. However, the low levels of POS, citizenship, and innovation performance may be considered marginal because of the role that group size plays in the calculation of ICC(2). In their study, Kozlowski and Klein (2000) describe an ICC(2) with a group size of two as “utterly unstable.” Thus with the minimum group size of three, the values could reflect this unstable nature. ICC(2) is ICC(1) corrected for group size using the Spearman Brown equation. The average team in this study was composed of 6.3 individuals, which lessens the impact of the ICC(2) in determining aggregation. Because the evidence for within-group homogeneity and between-group heterogeneity does not support the identification of team climate for innovation and neither regulatory focus as group-level constructs, aggregation of the individual responses to the group level seems unwarranted for these dependent variables.

The final step in determining acceptable aggregation is the natural occurrence of these groups as opposed to them being a statistical artifact. As discussed above, the participating groups result from self-organization or advisor organization; thus they comply with this final requirement. Overall, these results do not totally support the aggregation of all team-level

variables into the composite constructs that are the items of interest in this study. While the results of the interrater reliability and agreement test provide some question as to the viability of continuing with an aggregation of all factors to the team level, several researchers encourage further analysis.

James et al. (1984) encourage researchers to also model other distribution, including those that are caused by response bias such as leniency bias and central tendency. Thus, I evaluated the other types of null distribution (skewed, triangular, and normal) to see whether the distribution was not uniform. Unfortunately, all factors appear to have the highest values using a uniform null distribution. Brown and Hauenstein (2005) argue  $Rwg_{(j)}$  is scale dependent and can differ based on the use of five-, seven-, or nine-point Likert-type scale leading to lower than expected scores. Because the constructs with the lowest values were the ones using a nine-point Likert scale, this does not appear to be the reason for the low scores.

Further researchers, such as LeBreton and Senter (2008), argue that depending on the theoretical nature of the aggregated construct, it may not be necessary to demonstrate that the data collected at the lower level are similar enough to one another prior to aggregating the data as an indicator of higher-level constructs. In addition, composition and compilation are two bottom-up processes that have been utilized in determining whether IRA and IRR are important (Kozlowski and Klein, 2000). Some researchers agree that these values may be insignificant for compilation models (Bliese, 2000). It could be argued that regulatory focus is a compilation process in which one could assume that there are apparent differences between non-aggregated and aggregated data. Finally, researchers suggest thinking beyond the heuristic approach and determine the necessity of a high versus low agreement based on the particular research question and composition model (LeBreton & Senter; Bliese). They believe the type of composition model being tested, the quality of measures being used to test the model, and the significance of the decisions being made as a result of aggregation should be evaluated as part of determining whether aggregation is viable. Based on this insight, I

proceeded with caution to the testing of my proposed hypotheses at the aggregated level.

### Hypothesis Testing

Once the data was aggregated, descriptive statistics were evaluated and are shown in Table 3. Although Table 3 provides interesting results with regard to the correlations of variables in the theoretical model, the need to examine complex interactions, and indirect effects, multivariate regression was used to evaluate this study's hypothesis.

Table: 3  
Descriptive Statistics – Aggregated Data at Supervisor Level

		M	SD	1	2	3	4	5
1	Prevention Focus	4.03	0.90					
2	Promotion Focus	6.75	0.66	0.098				
3	POS	3.48	0.53	-0.195	0.190			
4	TCI	3.60	0.37	-0.158	0.050	.628**		
5	Innovation	3.49	0.54	-0.157	-0.184	-0.002	-0.085	
6	Citizenship	3.83	0.56	-0.136	0.027	.273**	0.144	.690**

\*\*. Correlation is significant at the 0.01 level (2-tailed).

\*. Correlation is significant at the 0.05 level (2-tailed).

N=93

#### Simple Main Effects

*Team Climate for Innovation as a Predictor of Performance.* Team climate for innovation forms the foundation of the theoretical model and serves as a source for group-level innovation and citizenship performance. This relationship was measured using the Pearson Product-Moment Correlation Coefficient ( $r$ ) or correlation coefficient. The first hypothesis evaluated the relationship between group TCI and group performance. The results of the test demonstrated no correlation between TCI and team innovation performance with an  $r = -0.085$ ,  $p > .05$ . A more positive correlation between TCI and team citizenship performance with an  $r = .144$  is present but

does not appear significant with a  $p$ -value greater than .05. Based on this analysis, Hypotheses 1a and 1b are not supported; thus there does appear to be a positive relationship between TCI and citizenship performance.

*Collective Regulatory Focus as a Predictor of Performance.* Hypotheses H2a, b, c, and d were tested using the Pearson Product-Moment Correlation Coefficient ( $r$ ) or correlation coefficient to evaluate the relationship between collective regulatory focus and team performance. The results of the test showed a weak negative correlation between collective promotion focus and team innovation performance with an  $r = -0.184, p > .05$ . The relationship between collective promotion focus and team citizenship performance with  $r = .027, p > .05$  is considered not significant. There was a weak negative correlation between collective prevention focus and team innovation performance with  $r = -0.157, p > .05$  and between collective prevention focus and team citizenship performance with an  $r = -0.136, p > .05$ . Based on this analysis, Hypotheses H2a and 2c and Hypotheses H2b and H2d are not supported.

*Team Climate as a Predictor of Collective Regulatory Focus:* Hypotheses H3a and H3b were also tested using the Pearson Product-Moment Correlation Coefficient ( $r$ ) or correlation coefficient. These hypotheses evaluated the relationship between TCI and collective regulatory focus. The results of the test showed no correlation between collective promotion focus and TCI with an  $r = .050, p > .05$ . Based on this analysis, H3a was not supported. There does not appear to be a relationship between collective promotion focus and TCI. The relationship between TCI and collective prevention focus was moderate and negative with an  $r = -0.158, p > .05$ . Therefore, H3b was supported.

#### *Collective Regulatory Focus as a Mediator for Predicting Performance*

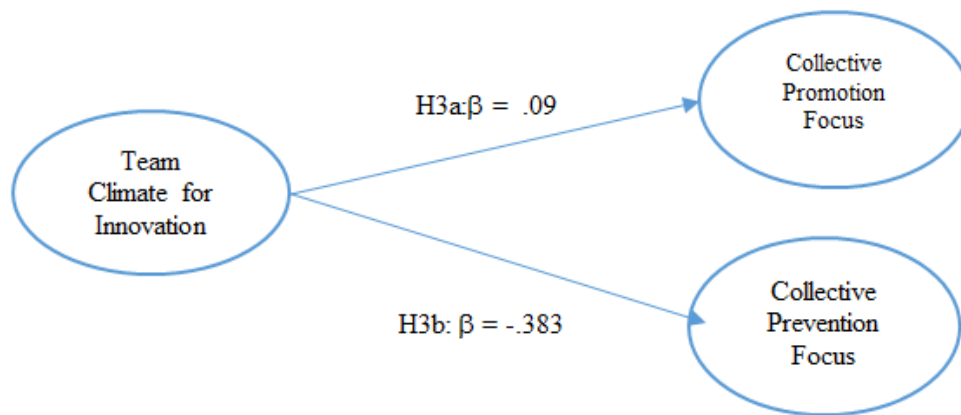
To test the mediation effect of Collective Regulatory Focus (both prevention and promotion) on the relationship between TCI and performance, I will begin by utilizing the regression module in SPSS (SPSS Inc., 2013) and the mediation process built by Hayes for SPSS. The first analysis

was a simple regression analysis in which TCI predict collective regulatory focus, collective promotion focus, and collective prevention focus. The results are shown in Table 4.

Table: 4  
Team Climate as a Predictor of Regulatory Focus

Variable	Constant	B	SE ( e )	t	p	R2
Promotion	6.434	0.090	0.188	0.481	0.632	0.003
Prevention	5.412	-0.383	0.251	-1.525	0.131	0.025

As illustrated in Figure 4, the model does not appear to be significant for collective promotion focus  $\beta = .09, p > .05$ . Collective prevention focus appear to shown some significance  $\beta = -0.383, p < .05$ . Thus the item of TCI does not significantly predicted collective promotion regulatory focus, and Hypothesis 3a is not supported. TCI does, however, have a negative relationship with collective prevention focus; but it is not significant. Therefore Hypothesis 3b is partially supported.



\* $p < 0.05$ . \*\*  $p < 0.01$ , Standardized Coefficients,  $n = 93$

Figure 4: Simple Main Effect: Team Climate for Innovation and Collective Regulatory Focus

The full mediation model was estimated by a multi-regression analysis with both TCI and collective regulatory focus predicting performance. The results will be used to analyze interactions, indirect, and total effects. Table 5 summarizes the results of the mediation model for collective promotion regulatory focus. The table shows all *p*-values greater than .05 and very low *R*<sup>2</sup> values. The results did not support team climate for innovation mediation, though promotion regulatory focus was significant in predicting innovation or citizenship performance.

Table: 5  
Predictors of Team Performance -Promotion Focus Mediation

	coeff	se	t	p	R2
Innovation					
Interaction	4.887	0.770	6.343	0.000	
Promotion	-0.147	0.084	-1.744	0.085	
TCI	-0.112	0.151	-0.738	0.463	0.040
Citizenship					
Interaction	2.935	0.805	3.647	0.000	
Promotion	0.017	0.088	0.188	0.851	
TCI	0.217	0.158	1.373	0.173	0.021

Table 6 summarizes the results of the mediation model for collective prevention regulatory focus. The table shows all *p*-values greater than .05 and very low *R*<sup>2</sup> values. The results did not support team climate for innovation mediation, though prevention regulatory focus was significant in predicting innovation or citizenship performance.

Table: 6  
Predictors of Team Performance –Prevention Focus Mediation

	coeff	se	t	p	R2
Innovation					
Intercept	4.509	0.645	6.993	0.000	
Prevention	-0.105	0.063	-1.670	0.098	
TCI	-0.165	0.153	-1.079	0.284	0.037

Citizenship					
Intercept	3.433	0.668	5.136	0.000	
Prevention	-0.072	0.065	-1.103	0.273	
TCI	0.191	0.159	1.202	0.233	0.034

The direct and indirect effect were determined from the Preacher and Hayes (2004) SPSS process utilizing a normal theory approach and bootstrapping to obtain confidence intervals. The purpose is to establish that zero-order relationships among the variables exist because if one or more of these relationships is not significant, researchers usually conclude that mediation is not possible or likely (MacKinnon et al., 2007). Some type of mediation is supported if the effect of the mediator remains significant after controlling for the input (TCI) (MacKinnon, 2008). Because this method has sometimes missed some true mediation effects (Type II errors), calculating the indirect effect and testing for significance was also evaluated (MacKinnon et al., 2002). The indirect effect is the difference between these two coefficients. ( $B_{\text{indirect}} = B - B_1$ ). The indirect effect findings, seen in Table 7, show that none of the indirect effects is significant. The direct effect findings, seen in Table 8, also show that none of the direct effects is significant. Thus, Hypotheses 4a, 4b, 4c, and 4d are not supported.

Table: 7  
Indirect effects of X on Y

Variable	Effect	Boot SE	BootLLCI	BootULCI
Innovation				
Promotion	-0.0133	0.0343	-0.1150	0.0323
Prevention	0.0404	0.0404	-0.0128	0.1587
Citizenship				
Promotion	0.0015	0.0203	-0.0306	0.0600
Prevention	0.0276	0.0396	-0.0200	0.1513

Table: 8  
Direct effects of X on Y

Variable	Effect	SE	t	p
Innovation				
Promotion	-0.1115	0.1512	-0.7375	0.4627
Prevention	-0.1651	0.1531	-1.0785	0.2837
Citizenship				
Promotion	0.2169	0.1580	1.3730	0.1732
Prevention	0.1907	0.1587	1.2016	0.2327

#### *Test for Moderation of Perceived Organizational Support*

The final hypothesis to be tested utilizes a moderation mediation model where perceived organizational support (POS) moderates the relationship between TCI and collective regulatory focus to determine performance. Utilizing the regression module in SPSS (SPSS Inc., 2013) and the MODMED macro built by Hayes for SPSS, the moderated path analysis was performed after variables were mean centered. Products of coefficients to estimate interactions, indirect and total effects, and 1,000 bootstrapping samples were used to estimate the coefficients. The simple main effect was tested for significance using the t-test generated in the SPSS regression. The indirect and total effects were tested for significance using bias corrected confidence intervals from the results of the CNLR module's generation of bootstrap samples.

The regression analysis was performed using standardized data and all possible interactions. The results are shown in Tables 9 and 10. The results failed to support the final hypotheses, H5a: POS will moderate the relationship between TCI and Promotion Focus such that when POS is high, the mediated relationship of TCI to Innovation and Citizenship Performance via Promotion



Focus is more positive. The interactive effects are shown in Figures 5 and 6.

Table: 9  
Moderation Test of TCI \* POS

	b	t	p
DV: Promotion Focus			
TCI	-0.196	0.238	0.413
POS	0.586	0.172	0.040
Interaction	0.198	0.260	0.447
DV: Prevention Focus			
TCI	-0.163	-0.508	0.613
POS	-0.340	-1.472	0.145
Interaction	-0.496	-1.415	0.161

Table: 10  
Conditional Indirect Effect of TCI on Performance via POS X Regulatory Focus

Accountability	Conditional	SE	LLCI	LLCU
DV: Promotion Focus				
Indirect Effect				
Level				
High	-0.093	0.051	-0.155	0.077
Low	0.040	0.045	-0.012	-0.180
DV: Prevention Focus				
Indirect Effect				
Level				
High	0.122	0.046	-0.055	0.133
Low	0.040	0.051	-0.021	0.225

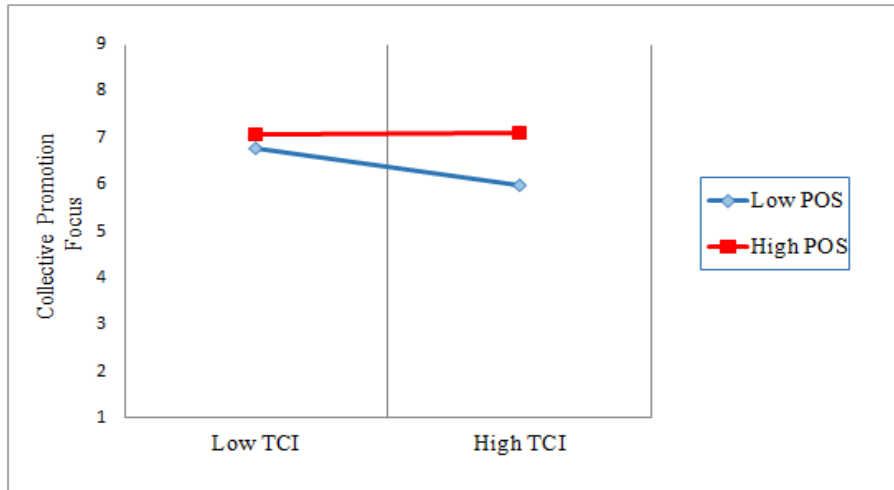


Figure 5: Interaction of POS and TCI on Collective Promotion Regulatory Focus

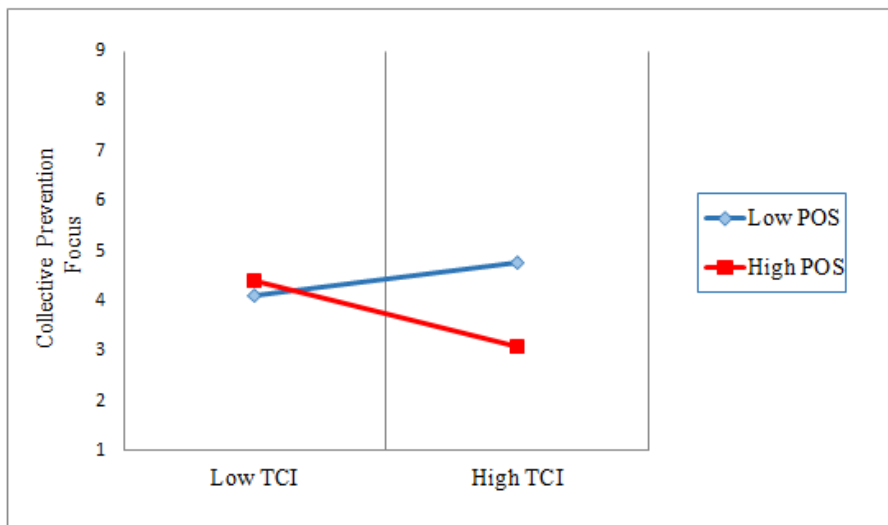


Figure 6: Interaction of POS and TCI on Collective Promotion Regulatory Focus

### Supplemental Analysis

#### *Application of Model to Individual Level*

A discovery of concern in the primary analysis of this study is the degree to which none of the hypotheses was supported. Further analysis of the data was performed in an attempt to explain the lack of support for my model. Since aggregation of the data to the work-group level

was not fully supported, I evaluated my theoretical model at the individual level. To begin this analysis, descriptive statistics and Pearson Product-Moment Correlation Coefficient ( $r$ ) or correlation coefficient were performed at the individual level and are shown in Table 11.

Table: 11  
Descriptive Statistics

		M	SD	1	2	3	4	5
1	Prevention Focus	4.10	1.85					
2	Promotion Focus	6.72	1.52	.118**				
3	POS	3.46	0.80	-.052	.219**			
4	TCI	3.58	0.63	-.131**	.215**	.561**		
5	Innovation	3.46	0.85	-.109*	.004	.050	.018	
6	Citizenship	3.80	0.80	-.104*	.015	.163**	.062	.673**

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

N = 523

#### *Hypothesis Testing H1-H3 using Pearson Product-Moment Correlation Coefficient*

*Team Climate for Innovation as a Predictor of Performance.* The results of the test at the individual level demonstrated no correlation between TCI and team innovation performance with an  $r = .018, p > .05$  or between TCI and team citizenship performance with an  $r = .062, p > .05$ .

*Collective Regulatory Focus as a Predictor of Performance.* The results of the test showed no correlation between collective promotion focus and team innovation performance with an  $r = .004, p > .05$  or between collective promotion focus and team citizenship performance with  $r = .015, p > .05$ . There was a negative and significant correlation between collective prevention focus and team innovation performance with  $r = -.109, p < .05$  and team citizenship performance with an  $r = -.104, p < .05$ .

*Team Climate as a Predictor of Collective Regulatory Focus.* The results of the test showed a positive and significant correlation between collective promotion focus and TCI with an  $r = .215, p < .01$ . There also appears to be a negative but significant relationship between

collective prevention focus and TCI with an  $r = -0.131$ ,  $p < .01$ .

#### *Individual Level Analysis by Pay Type*

With the individual-level data continuing to show limited support for my theoretical framework, my final supplementary analysis considered examining the data further based on the control variable pay (hourly versus salary). To begin this analysis, the first three hypotheses were tested using Pearson Product-Moment Correlation Coefficient ( $r$ ) or correlation coefficient. In addition, because of the high correlation between innovation and citizenship performance, overall performance was also evaluated. Overall performance was calculated by adding the two performance numbers together. Table 12 shows the descriptive statistics. The results show there are differences in the correlations based on type of pay.

Table: 12

Descriptive and correlations among variables based on control variables

Pay = Hourly N = 392	M	SD	1	2	3	4	5
1. Prevention Regulatory Focus	4.22	1.89					
2. Promotion Regulatory Focus	6.70	1.58	.188**				
3. Perceived Org. Support	3.28	0.82	0.021	.245**			
4. Team Climate for Innovation	3.51	0.63	-0.117*	.221**	.535**		
5. Innovation Performance	3.34	0.52	-0.062	0.009	-0.116*	-0.075	
6. Citizenship Performance	3.67	0.79	-0.086	0.011	-0.017	-0.021	.658**
7. Total Performance	7.01	1.46	-0.081	0.011	-0.074	-0.055	
Pay = Salary N = 148							
1. Prevention Regulatory Focus	3.81	1.71					
2. Promotion Regulatory Focus	6.79	1.34	-0.094				
3. Perceived Org. Support	3.81	0.65	-0.155	0.123			
4. Team Climate for Innovation	3.76	0.59	-0.116	.188*	.550**		
5. Innovation Performance	3.77	0.09	-0.167*	-0.038	.265**	0.120	
6. Citizenship Performance	4.13	0.71	0.070	-0.007	.427**	0.139	.652**
7. Total Performance	7.89	1.41	-0.135	-0.026	.372**	0.142	

\*, Correlation is significant at the 0.05 level (2-tailed).

\*\*, Correlation is significant at the 0.01 level (2-tailed).

### Perceived Organizational Support as an Antecedent to TCI

Since I found no significant support in the original theoretical model at either the aggregated or individual level, I evaluated the data by control variable. In addition, the overall performance was utilized as new model in which POS was not a moderator but rather an antecedent to TCI. The revised model is shown in Figure 7.



Figure 7. New model with POS as Antecedent

To evaluate this model, I developed a path model analysis utilizing SAS JMP. 10.0 structure equation modeling using the correlation coefficients for the individual dataset. The results for the model fit showed a good fit ( $\chi^2_1 = 4.89$ , CFI = 0.9802, SRMR = 0.0327, RMSEA = 0.0864) for the overall model, good fit ( $\chi^2_1 = 1.08$ , CFI = 0.9992, SRMR = 0.0185, RMSEA = 0.0149) for the hourly model, and moderate fit ( $\chi^2_1 = 19.92$ , CFI = 0.740, SRMR = 0.1202, RMSEA = 0.3588) for the salary. Figure 8 shows the standardized results of the path model for each.

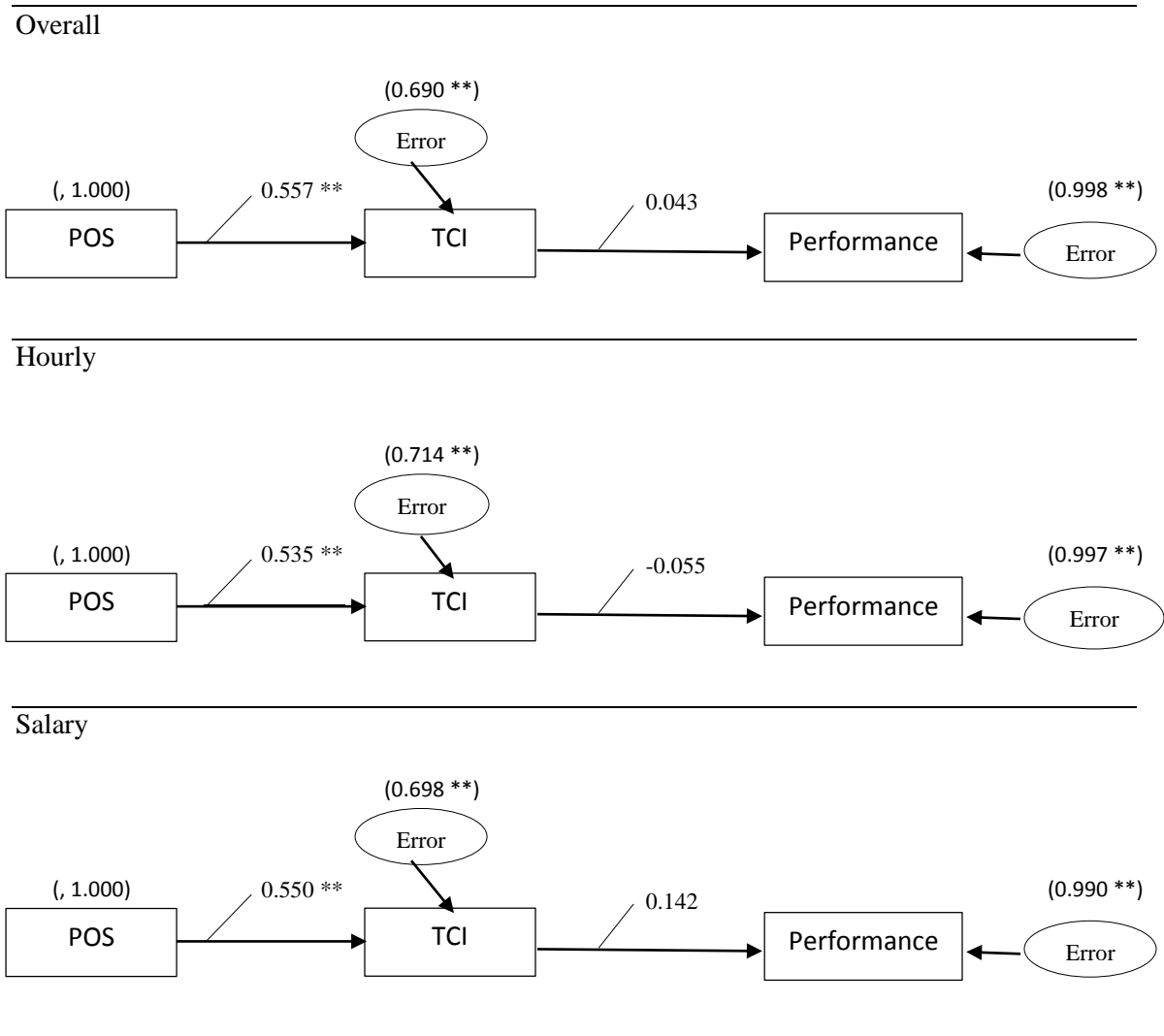


Figure 8: Standardized Path Model Results Using SEM

The total, direct, and indirect effects are shown in Table 13. There appears to be some significant effects using this model that will be discussed further in the next chapter.

Table: 13  
Standardized Total, Direct and Indirect Effect (effect/p value)

Control Variable	Variable	TCI	POS
Both Hourly & Salary	Performance	0.0427	<b>0.0238</b>
		0.3281	<b>0.3291</b>
	TCI		0.5566 <.0001
Hourly	Performance	-0.0545	<b>-0.0297</b>
		0.2903	<b>0.2921</b>
	TCI		0.5345 <.0001
Salary	Performance	0.1416	<b>0.0778</b>
		0.0798	<b>0.0871</b>
	TCI		0.5498 <.0001

### Summary of Results

There are several consistencies as well as differences between the primary and the supplementary analysis. It appears that there is no statistically significant relationships at the collective level between regulatory focus (promotion or prevention) and performance (citizenship or innovations). However, at the individual level there is a negative relationship between regulatory focus and performance. Collective regulatory focus is not significant as a mediator between team climate for innovation and innovation and citizenship performance. Team climate for innovation did affect performance at the collective level and at the individual level. TCI did, however, have a negative relationship with both collective and individual prevention regulatory focus. Finally, there is a strong statistical relationship ( $p < .01$ ) between TCI and POS at both the collective and individual levels, which supports other studies. Perceived organizational support appears to have a strong relationship with many of the constructs depending on the level of analysis being performed. The most consistent relationship was between POS and citizenship performance. While most of the analysis did not support the theoretical model proposed in this study, the original study and the supplemental analysis did provide some interesting results, which I will expand further in the discussion section.

## CHAPTER VI

### DISCUSSION

In this study, I explored the interactive processes that lead to team innovation and citizenship performance. I was surprised to find that perceived organizational support, a team climate for innovation, and the collective regulatory focus of the team had only small, if any, effects on the citizenship and innovation performance of the team. It appears that other, more dominant factors may play a role in enhancing team performance. My results also bring into question why this study was unable to replicate previously substantiated theories in the areas of team climate for innovation and regulatory focus. Collective regulatory focus, which was expected to mediate the process of team climate for innovation and team performance, appears to have no significant effect. The results also failed to provide evidence that perceived organizational support moderates the process regulating the intensity of the effect on team performance. In this chapter, I will discuss the ramifications of my results for both theory and practice, consider the limitations of this study, and illustrate extensions of this research to further define the relationship between team performance and motivation process in organizational research.



## **Interpretation of Results**

In several aspects, the results of this study are both interesting and theoretically unexpected. A major area of contribution for this research was to establish team-level inputs (TCI and POS) and processes (collective regulatory focus) that would lead to measuring team-level outputs (innovation and citizenship performance). Past research established that team climate for innovation should positively affect team innovation and citizenship. The initial part of this study was to replicate previous theoretical findings as they related to team climate for innovation and performance and collective regulatory focus and performance. These results, however, showed that neither team climate for innovation or collective regulatory focus translated into improved team innovation performance at the team level or, as shown in the supplemental analysis, at the individual level. Nor did the results support the notion that team climate for innovation was related to collective regulatory focus, which in turn would affect performance. Finally, when POS was added as a moderator to my theoretical framework, it also failed to have the expected result of improving performance. My overall results are especially intriguing as they relate to innovation performance; they bring into question the generalizability of past research. In this section, I will discuss in more details the various parts of my study and possible reasons for the lack of support of past theory.

Past studies show that TCI leads to stronger innovation; therefore, I expected this study to replicate past findings and support this theory. I did not expect to find no support for this relationship at the team level. The supplementary analysis at the individual level also failed to support my Hypotheses H1a and H1b regarding TCI positively relating to innovation and citizenship performance. My findings showed that TCI has no effect on either performance measure. I certainly did not expect that TCI would not lead to innovation performance and not enhance citizenship performance.

While the actual cause of these results is unknown, researchers have shown that innovation within an organization is not a linear process with well-defined goals and endpoints but consists of several stages, including idea generation, support, and implementation (Rietzschel, 2011; Basadur &

Gelade, 2006; Damanpour & Schneider, 2006; Kanter, 1983). Although innovation is often measured as an aggregated variable, researchers argue that different stages of the innovation process may not always be affected by the same variables in the same way (De Dreu & West, 2001; Woodman, Sawyer, & Griffin, 1993). For instance, West, Sacramento, and Fay (2006) discovered that external demands inhibited team idea generation while Rietzschel, Nijstad, and Stroebe (2007) noticed that differences in idea generation performance did not always translate to differences with idea selection quality. From this research, it appears that different stages and aspects of innovation may have contributed to the lack of support for my hypotheses that TCI leads to better performance. Therefore, even with a strong team climate for innovation, depending on the team's stage of innovation TCI and external demands, innovation performance and outcomes could be impacted.

Furthermore, a team climate for innovation was not shown to be a significant influence on citizenship performance. Because a team climate for innovation promotes a common vision, participative safety, and support for innovation, I expected that TCI would increase citizenship performance. These results failed to meet the requirements for supporting this hypothesis. While previous research results show that the four climate facets of TCI have a significant positive relationship with team members and team performance beyond measuring team innovativeness (Gonzalez-Roma et al., 2009), it appears from this study that it may not be an effective measure for collective citizenship performance. The results of my study showed that TCI had a slightly positive but not significant affect at the team level and no effect on individual citizenship performance in the supplementary analysis. TCI interrater agreement and reliability measures provided mixed results on the effectiveness of aggregating. In addition, several items were removed from the factor models because of improper or weak loading on to the factors, which may have contributed to the aggregated result between TCI and citizenship performance. The ability to suggest a relationship exists between TCI and citizenship performance is suspect and further research needs to explore the relationship.

It is also possible that a positive relationship between TCI and citizenship performance was noticed at the aggregated team level because a different form of team climate or other external factors

overshadowed the effect of TCI. The supplementary analysis explored this possibility by looking at the correlation coefficient for one of the control variables, pay (hourly versus salary), to provide some insight into when TCI may effect performance. The results showed TCI had dissimilar results as compared to performance based on whether the employee was paid by the hour or paid a salary. While the results did not meet the required *p*-value to be significant, they do provide evidence that the theoretical assumption of TCI leading to improved innovation performance may not be generalizable across all working environments. Therefore, further studies surrounding the context in which TCI does play an active role in team innovation and citizenship performance is merited.

I expected to find results similar to those in the original study by Chen and Kanfer (2006) that a collective form of regulatory focus was the functional equivalent of the individual level of regulatory focus. Initially the psychometric evidence in individual and aggregated data suggested that shared values of team members regarding goal-directed behavior influenced the development of team motivation processes resulting in a collective regulatory focus. The original 18-item scale showed some internal consistency for both promotion and prevention focus subscales. After four items from each of the subscales were removed, internal consistency improved but the fit for the individual factors of prevention and promotion focus remained a marginal-to-poor fit. The test for aggregation indicated both between group and within-group variation was not sufficient to establish a shared phenomenon. With the lack of fit along with the failed support for aggregation, the question arises as to whether the regulatory focus scale utilized in this study is effective at measuring collective regulatory focus. While my theoretical framework evaluated collective regulatory focus, the reliability measurements failed to provide adequate evidence that aggregation could be supported. This was one of the main reasons I chose to perform the supplementary analysis at the individual level.

A reasonable explanation for the inability to aggregate the data can be found in some recent research that posits that membership in a group can influence the regulatory focus strategies used by the team in manners that cannot simply be deduced from their individual regulatory predisposition

(Faddegon, Scheepers, & Ellemers, 2008). Obviously, the influence of collective- level regulatory focus occurs against the backdrop of individual regulatory focus, but it is possible that when one is asked about their personal regulatory focus, such as the survey in this study, one's individual focus may not be reflective of the team's overall focus. The result is a lack of within-group homogeneity of the collective focus because the team may not possess a regulatory fit. In a recent study, researchers found that collective regulatory congruence was not always present in work teams in which the team goals did not appear to be important to the individual (Zaal, Van Laar, Ståhl, Ellemers, & Derks, 2012). This may limit the team's ability to have a collective motivation process. Since my theoretical framework proposed in this study relied on collective regulatory focus to mediate the process between TCI and performance, the lack of fit and aggregation could be the culprit in the lack of evidence supporting my position.

Another replicated theory in my study was the impact of collective regulatory focus on both innovation and citizenship performance. Not surprisingly, prevention focus did have a negative impact on both types of performance but appeared to not meet the criteria for statistical significance ( $p$ -value > .05) at the aggregated level. The supplemental analysis did show significant negative relationships between both citizenship and innovation performance. The sample size of 93 teams compared to the 523 individual data points may have contributed to the lack of significance at the aggregated level. This supports previous studies showing that prevention focus relates negatively to various types of performance, including innovation and citizenship performance. Hypotheses H2b and H2d were partially supported, thus supporting previous research that preventive focus will have a negative effect on both citizenship and innovation performance.

The intriguing results occurred with promotion focus at both the collective and individual levels. Since it is highly correlated in the performance arena, researchers have continued to investigate the role of regulatory focus in work organizations as I did in this study (Brockner & Higgins, 2001; Wallace et al., 2009). Prior research supports a positive relationship between promotion focus and innovation (Lanaj et al., 2012). However, my results differ from that of the Lanaj and colleagues'

meta-analysis on regulatory focus and work-related outcomes by showing a negative relationship, though not significant, between collective promotion focus and innovation performance. The supplementary results at the individual level also did not support a relationship between promotion focus and innovation performance. Further investigation is needed to determine whether the relationship exists and to replicate these conflicting results.

My study extended this prior research by proposing a positive relationship between promotion focus and citizenship performance because of the effect of promotion focus on extra-role behavior (Wallace et al., 2009; Lanaj et al., 2012). My results indicate there is no relationship between collective regulatory focus and citizenship performance, thus rejecting my Hypothesis H2c. Likewise, the supplementary analysis at the individual level also failed to support a positive relationship. This continues to provide mixed results for establishing a relationship between promotion regulatory focus and citizenship behavior. For instance, Neubert and colleagues (2008) found a positive relationship between promotion focus and pro-social behavior, while DeCremer et al. (2009) showed they were unrelated. Also in another recent meta-analysis, Lanaj et al. (2012) found there to be a relationship between citizenship behavior and promotion focus that enhances citizenship behavior. The mixed results also have been found with prevention focus and citizenship behavior. DeCremer et al. (2009) showed no relationship between prevention focus and organizational citizenship behavior, while Wallace et al. (2009) found a negative relationship between prevention focus and organizational citizenship behavior. I conclude from my results and the results of others that more investigation is needed to understand how regulatory focus, both at the collective and individual levels, modifies performance outcomes such as citizenship performance.

Although the empirical evidence advocates that promotion foci is uniquely related to work behaviors such as innovation and citizenship performance, other studies provide insight into how our regulatory focus can be changed based on the situation and the surrounding conditions. Wallace and colleagues (2009) found work teams responsible for accomplishing various tasks, work safety, and producing a high-quality product may demonstrate a collective regulatory focus that is suitable to

their work environment. In the manufacturing organization in which this study was performed, much of the work teams' primary focus was avoiding injury and producing a product within required specifications while achieving desired production levels. This could explain the negative relationship between collective promotion focus and innovation performance and the lack of a relationship with citizenship performance.

My study also examined the relationship between team climate for innovation and regulatory focus and how TCI is an antecedent to collective regulatory focus. The results did not support a positive collective relationship between TCI and promotion focus; rather, the results showed no relationship existed. Hypothesis H3a was not supported, but the supplementary analysis did show a significant positive relationship between TCI and promotion focus. Various studies have identified climates that influence regulatory focus. The team climate for innovation measure that evaluates teams' ability to work in a creative and innovative manner suggests that teams are inspired to take risks, achieve positive outcomes, and accomplish their goals. This leads me to believe there is evidence that this relationship does exist even though my hypothesis was only partially supported.

On the other hand, the results did support a negative relationship between TCI and collective prevention focus. Hypothesis H3b proposing that TCI relates negatively with collective prevention focus is supported. In addition, the supplemental analysis performed at the individual level supported these relationships with a significantly positive relationship between TCI and promotion focus and a slightly negative, but significant, relationship between TCI and prevention focus. Based on the lack of support to aggregate regulatory focus, the supplementary results show potential that TCI could relate to collective regulatory focus. Hence, Hypotheses H3a and H3b are partially supported, but more studies should be performed to substantiate these theoretical findings.

At the next stage of my analysis, I assessed the role played by collective regulatory focus in mediating the relationship between TCI and both innovation and citizenship performance. My results did not support team climate for innovation mediated through promotion regulatory focus, though it was significant in predicting innovation or citizenship performance. With both TCI and collective

regulatory focus having no direct effect on team innovation performance and only a small, nonsignificant effect on team citizenship performance, the lack of evidence to support collective regulatory focus mediating the process between TCI and performance is apparent. Thus, Hypotheses H4a, H4b, H4c, and H4c were not supported in this study. Again, when this theory was evaluated in the supplementary analysis at the individual level, the results showed both promotion and prevention focus did not mediate the process between TCI and performance.

Based on these results, there appears to be no support for regulatory focus mediating the process at either the individual or the collective level. However, Faddegon et al. (2008) recently found that collective focus exerted its effect more strongly on those stages of the innovation process where strategic choices were made regarding the investment of resources. Their findings supported the notion that mediation processes exist. More research is needed to better understand how this mediating process affects the different stages of team innovation, and the means by which it may mediate both innovation and citizenship performance.

At this point in the analysis, it was highly unlikely that my final hypothesis would be supported; nevertheless, I proceeded to analyze the results of my full theoretical framework by adding perceived organizational support as a moderator. The results failed to support the final hypothesis that POS would moderate the relationship between TCI and collective promotion focus such that when POS is high the mediated relationship of TCI to innovation and citizenship performance via promotion focus is more positive. Both the direct and indirect effects were insignificant, and the interaction did not provide any evidence to support my final Hypothesis H5. Various reasons for my framework not being supported in this study has been discussed in this section. It appears that at both the collective and individual levels there is limited support for the theoretical framework I proposed. To better understand where the theoretical model was deficient, I proceeded to perform some additional analysis.

Given the methodological challenges associated with the primary study, my final supplementary analysis consisted of developing a revised model in which perceived organizational support acted as

an antecedent to team climate for innovation. In addition, I utilized data at the individual level since my data showed the aggregation would be unreliable for some constructs. The results of this model proved to be interesting with several significant paths. There appears to be a strong relationship between POS and TCI, and perceived organizational support has a positive effect on team climate for innovation. The path model also shows a significant positive effect on promotion focus and a negative effect on prevention focus for individuals. While the path POS > TCI > Promotion did not create improved citizenship or innovation performance, the path POS > TCI > Prevention did create a negative effect on both performance measurements. This leads one to believe that regulatory promotion focus may not be the conduit or process that converts strong organizational support and team climate for innovation to higher innovation or citizenship performance. Furthermore, it appears that the stimuli of POS and TCI do have a negative effect on prevention regulatory focus, leading to less citizenship and innovation performance at the individual level.

Throughout this study, the construct of promotion regulatory focus continually demonstrated no conclusive outcome to enhancing innovation or citizenship performance. At the aggregated team level, the consequence turned negative. To date, researchers have studied the effects of regulatory focus on various outcomes and have shown that promotion focus positively impacts performance outcomes associated with specific tasks, innovation, and helping behavior (Wallace et al., 2013; Wallace, Little, Hill, & Ridge, 2010; Wallace et al., 2008). However, little is known about how promotion orientation interacts with other factors such as personality traits and when such traits may impair performance outcomes. In a recent study, it was found that personality traits can erode performance in promotion-focused individuals (Smith, Wallace, & Jordan, in submission). Thus, this could be an explanation for the lack of support for the results of previous studies.

It is also possible that this negative or lack of a relationship with innovation performance was not originally theorized because TCI and POS solicit teams in a different area of performance, such as task or safety performance. Studies show that the expected performance outcomes of the team play an important role in determining the type of climate that will impact these results (Wallace et al.,



2006). In their study, Wallace et al. found that POS positively impacts the safety climate, which in turn increases safety performance outcomes such as reducing the number of accidents. This study primarily focused on manufacturing employees where other performance outcomes are more significant than innovation performance, bringing into question the generalizability of previous studies.

### **Theoretical Implications**

The aim of my study was to fill a gap in the literature by showing how a team climate for innovation moderated by perceived organizational supports predict both innovation and citizenship performance through the mediating process of collective regulatory focus. The results of this study bring into question the generalizability of past research in this area. The current study highlights the importance of distinguishing the context in which TCI and POS predict performance outcomes. Merely analyzing effects of these constructs on a global measure of team innovation and citizenship performance may not yield the pattern of results found in this study and hence would expand the need for more research in this area.

Many studies on innovation performance have employed aggregated measures to better understand the team innovation process (De Dreu & West, 2001; Woodman et al., 1993). While this work is valuable and has led to important insights, current results suggest that important information may be lost if the difference in results between this study and others is not examined more thoroughly. Furthermore, my findings also imply that further research is needed to examine how and under what conditions the collective regulatory focus process influences team innovation performance. Past studies on collective regulatory focus has seen mixed results on its effectiveness at mediating performance outcomes (Wallace et al., 2006; Rietzschel, 2001). For example, Förster, Higgins, and Idson (1998) found that promotion and prevention effects on task motivation and engagement became stronger when participants were closer to goal attainment. Since organizational innovation is not a linear process with well-defined goals, especially in a manufacturing environment

like the one used on my study, it is possible that innovation performance is not constant. Thus, depending on the stage of innovation and the degree to which goals are specified, the team's collective regulatory focus may not tap into the specific motivational process addressed in previous studies.

This supports the needed for an extension of the research in this area to better understand the types of innovation and the process by which manufacturing teams are motivated to achieve innovation performance. For example, in most manufacturing environments, continuous improvement programs are deployed to engage employees in finding ways to improve safety, quality, working conditions, and performance. Defining the climate as one of continuous improvement, not innovation, may result in the antecedent climate acting as a different input to the process, thus changing the relationship with the mediating process of collective regulatory focus. Furthermore, measuring team innovation by the type of innovation may also lead to different outcomes that are more directly tied to the desired goal of the organization. The theoretical implications of these more specifically defined climate and performance outcomes is an opportunity to broaden our knowledge of team performance and the team motivational process.

Another theoretical implication of this study is the effectiveness of the current measures of assessing collective regulatory focus. The lack of support for aggregation brings into question whether this measure accurately depicts collective regulatory focus. Past research in this area predominantly concentrated on the behavior of individuals; however, it is possible that people's behavior at the group level cannot simply be extrapolated from individual-level contemplations. Studies show that people within a group often start thinking and behaving differently than they would as individuals (Higgins, 1998). Likewise, people at the group level tend to make more polarized decisions than do individuals, depending on the characteristics of the group (Fraser, Gouge, & Billig, 1971; Faddegon et al., 2008). The development of regulatory focus norms studied by Levine, Higgins, & Choi (2000) demonstrate that behavioral preferences of individuals who work together can converge over time to reflect a common focus on either promotion or prevention depending on

whether the outcomes are framed as gains or losses. Thus more research in whether individual regulatory focus can be aggregated to create a collective regulatory focus is needed to provide additional insight into collective regulatory focus formation. “Who I am” may not be reflective of “who we are” if a collective identity is formed and a collective strategy is promoted among team members.

### **Practice Implications**

Organizational leaders for years have been interested in learning how to increase team performance. There are several practical implications that can be derived from the results of this study. First, West and Anderson (1992) proposed that a team climate for innovation would lead to improved team innovation performance. In this study, however, this proposed interaction is not shown to be beneficial to either team innovation or citizenship performance. In fact, it may be that TCI only effects performance based on the alignment of performance outcomes of the team and the climate. Thus from a practical perspective, it would behoove organizational leadership to assume that creating a team climate for innovation would naturally increase the team’s performance outcomes, especially in the area of innovation. With a push for creativity and innovation in the work place as a means for creating a competitive advantage, leaders may need to be cautious in creating a climate where the outcomes are not rewarded or desired. In task-oriented positions, other climates, such as a quality climate or safety climate, may be more important than a climate for innovation. Thus the one-size-fits-all approach within the organization may not be effective and a more customized approach should be considered.

This study continues to support the idea that perceived organizational support can influence the climate and the performance of both teams and individuals. However, the degree to which it has an impact on various performance outcomes may vary, again based on the desired and rewarded outcomes. It does appear that the reciprocating effect of POS on the organization does promote better citizenship performance. This study showed that at both the individual and collective levels, POS

positively promotes citizenship performance but had little to no effect on innovation performance. From a practical standpoint, this demonstrates the need for organizational leadership to provide support to the entire organization by valuing employees' contributions and caring about their well-being. Furthermore, it is important that the support provided be aimed at those outcomes most desired. For example, this study showed that POS influenced the team's climate for innovation, but this did not translate to improved innovation performance. It is possible that innovation performance was not a key strategic outcome of the team or possibly even the individual, and thus did not predict innovation performance. Leaders must, therefore, provide targeted organizational support in the areas that are most preferred to ensure maximum effectiveness.

This study also brings into question the need for regulatory fit among team members. There are two sayings worth noting in this discussion: 1) a team is only as strong as its weakest link, and 2) the squeaky wheel gets the oil. Research based on regulatory focus shows that individuals change their strategies based on the desired end state or situation (Higgins, 1997). Other studies show that the joint focus of the team has important implications for their performance (Faddegon et al., 2008; Levine et al., 2000). If the team is performing a disjunctive task in which the team's performance can rely on the high performance of a single team member, then the overall team performance may be the result of the motivational focus of the high-performing member. Thus, the motivation of the rest of the team members is less significant and fit is not necessarily essential for the team to perform as long as there is a member who is able to carry the team. Likewise, if the team has a conjunctive tasks in which the team is only as strong as the weakest link, a common regulatory fit would be beneficial for the team to reach its maximum potential. A shared motivational focus and strategy would allow for team members to align themselves to negate the effect of the weakest link. Thus it is important for leaders to understand the dynamics of the team and the types of tasks they are asked to perform in order to ensure the proper motivational behavior from the team and a good fit. The effect on the cohesiveness of the team should be a significant consideration when leaders are looking to add new team members.

Furthermore, leaders should be aware that a low performer can bring down the performance of high performers, depending on the types of tasks the team is required to performance. On the other hand, leadership should also be aware of individuals who are allowed to slack off and leave the heavy lifting to a sole individual of the team. Thus team performance and individual performance could be biased based on team make up and required outcomes. This study did measure performance at the individual level to create the aggregated team performance. From a practical standpoint, individual performance may not lead to an accurate measurement of collective team performance. Likewise, leaders should be aware that team performance may not be reflective of an individual's performance or his/her full potential.

### **Limitations**

As in all research, there are limitations and compromises that should be accepted in order to gather insight and efficiently test the theoretical model. One of the limitations to this study is that the data was gathered at only one company; therefore, company culture may effect results if expanded to other organizations, and the result may not be generalizable across other organizations. Also, the data consist primarily of manufacturing, blue collar employees, which also may skew the results for two reasons: 1) they may not have understood the question properly, and 2) their motivation for working may be different in other positions than more professional positions. In many cases, these workers were low educated and worked as a means of supporting their families, not to pursue an upward career.

This research consisted of two surveys that were administered over a period of six months. One survey was filled out by the employee, and the other was completed by his/her supervisor at a later time. With the lag in time between the two surveys, it is possible that working conditions or the climate may have changed. For instance, at one of the divisions surveyed, a plant manager was replaced between the time employees filled out their surveys and the time the supervisors completed the second performance evaluation survey. Accordingly, casual inferences garnered from the results

cannot be certain. Thus, replications of this study in another setting or at a different time may provide similar or different results, allowing for further exploration of these relationships.

Perhaps the most visible limitation of the study was the lack of statistical significance for aggregation of collective regulatory focus and the low model fit of the regulatory focus items and promotion and prevention focus factors. While there did not appear to be any noticeable reason for the discrepancy, one possible explanation would be the context of the survey itself. The survey utilized for regulatory focus asked general questions about motivational focus without any form of context. Thus, since regulatory focus can be situational, employees may not have provided answers regarding their work group but rather their overall regulatory focus. A resolution to the problem was introduced in the supplementary by evaluating the data at an individual level. While it provided better correlations, its effect was still minimal. Therefore, further validation of this survey may be necessary to improve its overall fit and effectiveness at measuring collective regulatory focus.

Finally, a significant limitation to this study for detecting significant results in the model relationships was the size of the aggregated sample and the limitations imposed by a small number of participating teams. Some of the coefficients in the results were sufficient to show relationships but were not significant, which speaks to the lack of power in the statistical analysis. Small sample size can restrict the detection of significant results due to low levels of statistical power (Cohen, 1988). Although the same size is adequate for team research, more data collected across a larger pool of teams to aggregate could provide for more statistically significant results.

### **Future Research**

This study opens the door for continued research on team performance and the factors that contribute to improved performance outcomes in teams. Related to the limitations discussed in the previous sections, the first endeavor into future research should be aimed at improving the overall fit and effectiveness of the regulatory focus survey items. Future research could provide a better understanding of collective regulatory focus as a team process for teams established by an

organization whether temporary, such as a project team, or more permanent, such as a proximal work group. Further validation studies in different work environments, positions, etc. may provide better insight into how individuals respond to the questions and whether the situation causes a change in response. There are a number of team situations (e.g., other forms of climate, team goal setting) as well as team outcomes (e.g., task performance, extra-role performance) that may be illuminated through the application of collective regulatory focus to other theoretical framework.

Both perceived organizational support and team climate for innovation are proven and validated constructs to measure performance. Thus an extension of this study should be performed in order to understand the other factors that caused this study to show no significant effect of these constructs on innovation performance and those that caused only POS to demonstrate a positive statistically significant effect on citizenship performance. A quick correlation analysis of two of this study's controlled variables, pay (hourly or salary) and shift (days or nights) showed that the relationship among these various groups was not consistent. Thus, the work environment or climate may play a larger factor in determining performance. In addition, the type of employee — in this case, hourly versus salary — may also contribute to both individual and team performance and is worth further investigation.

Finally, an endeavor into future research should be aimed at increasing the sample size of the current study to allow for finer evaluation of some of the larger model coefficients. More teams included in the study may allow some of these nearly significant relationships to become supportive of the theoretical model.

### **Conclusion**

This dissertation investigated the effect of collective regulatory focus on team performance. In addition, it examined how team climate for innovation acted as a catalyst in effecting the motivational process of regulatory focus to lead to changes in both innovation and citizenship performance. Finally, it determined the impact of perceived organizational support on moderating the process to

change the performance outcome. This study found that work groups did not form a shared form of regulatory focus (collective) that impacted team innovation and citizenship performance. Nor did the study show that perceived organizational support moderated the relationship between team climate for innovation and collective regulatory focus to change a team's level of performance. The study did show that more significant relationships were established at the individual level than at the aggregated level. Thus it appears that team climate for innovation does relate positively to promotion focus and negatively to prevention focus at the individual level. Particularly interesting in this study was the negative effect of prevention focus at the individual level on both citizenship and innovation performance and the lack of positive effect of promotion focus on performance. These results are important because they provide valuable insight into how work environment and type of work may play a significant role in determining the need and level of innovation necessary in a manufacturing environment.



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## APPENDICES

### Appendix A

#### Regulatory Focus Questionnaire

Using the scale below, please select the appropriate number for each item. Use an “X” to select the most appropriate answer for you for each answer.

	Not at all true of me	2	3	4	5	6	7	8	Very true of me
In general, I am focused on preventing negative events in my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am anxious that I will fall short of my responsibilities and obligations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I frequently imagine how I will achieve my hopes and aspirations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often think about the person I am afraid I might become in the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often think about the person I would ideally like to be in the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I typically focus on the success I hope to achieve in the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often worry that I will fail to accomplish my goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often think about how I will achieve success.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Appendix A – Continues

Regulatory Focus Questionnaire Continues

	Not at all true of me	2	3	4	5	6	7	8	Very true of me
I often imagine myself experiencing bad things that I fear might happen to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I frequently think about how I can prevent failures in my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more oriented toward preventing losses than I am toward achieving gains.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My major goal in work is to achieve my professional ambitions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My major goal in work right now is to avoid becoming a professional failure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I see myself as someone who is primarily striving to reach my "ideal self" -- to fulfill my hopes, wishes, and aspirations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I see myself as someone who primarily striving to become the self I "ought to be" -- to fulfill my duties, responsibilities, and obligations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, I am focused on achieving positive outcomes in my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often imagine myself experiencing good things that I hope will happen to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, I am more oriented toward achieving success than preventing failure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Appendix A – Continues

### Perceived Organizational Support Questionnaire

Please indicate the degree to which you agree or disagree with the following statements. Use an 'X' to select the most appropriate answer for you for each answer.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
This organization values my contribution to its success.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This organization strongly considers my goals and values.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Help is available from this organization when I have a problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This organization really cares for my well-being.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This organization is willing to help me when I need a special favor.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This organization cares about my general satisfaction at work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This organization cares about my opinions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This organization takes pride in my accomplishments at work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This organization tries to make my job as interesting as possible.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I had it all to do over again, I would still go to work for this organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Appendix A – Continues

### Team Climate for Innovation Questionnaire

Please indicate the extent to which you agree or disagree with how well your work team exhibits/demonstrates the following characteristics. Use an 'X' to select the most appropriate answer for you for each answer.

<b>My team Exhibits:</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neither agree nor disagree</b>	<b>Agree</b>	<b>Strongly agree</b>
Agreement with objectives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
'We are together' attitude	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Preparedness to basic questions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The ability to search for new ways of looking at problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Team's objectives clearly understood	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People keep each other informed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Critical appraisal of weaknesses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time taken to develop ideas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Team's objectives achievable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People feel understood and accepted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building on each other's ideas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cooperation in developing and applying ideas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worth of the objectives to the team	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Real attempts to share information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Appendix A continues

### Supervisor Survey Measuring Employee Performance

For the following statements and/or questions, please select the point on the scale that you feel is most appropriate in describing the...

	<b>Needs much improvement</b>	<b>Needs some improvement</b>	<b>Satisfactory</b>	<b>Good</b>	<b>Excellent</b>
<b>Coming up with new ideas</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Working to implement new ideas</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Finding improved ways to do things</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Creating better processes and routines</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For the following statements and/or questions, please select the point on the scale that you feel is most appropriate in describing the...

	<b>Needs much improvement</b>	<b>Needs some improvement</b>	<b>Satisfactory</b>	<b>Good</b>	<b>Excellent</b>
<b>Working as part of a team or work group</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Seeking information from others in his/her work group</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Making sure his/her work group succeeds</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Responding to the needs of others in his/her work group</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



## VITA

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